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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: These White-winged Crossbills feeding in a spruce tree in Ashland (Ashland County) on 19 January 2009 were photographed by Ryan Brady. This species had a major invasion of Wisconsin during the winter of 2008–2009.

All I Want for Christmas is My Two Grosbeaks . . .

The brainchild of ornithologist Frank Chapman, Christmas Bird Counts began in 1900 as a more conservation-minded version of the tradition known as the Christmas "Side Hunt"—a holiday event in which people/families would pick teams and go afield to kill as many birds or animals as possible. In that first year, 25 Christmas Bird Counts were conducted across the US and Canada including one in Sauk County, Wisconsin. WSO members have been doing Christmas Bird Counts as long as there have been WSO members. In 1939, WSO's founding year, 12 counts were conducted in Wisconsin by a total of 42 observers. In that count, 92 species were observed. Most recently in 2008, 146 species were observed on 101 counts held across the state by 630 feeder observers and 1,368 field observers. Needless to say, the Christmas Bird Count has become one of the most anticipated and important citizen science events of the year.

The stories from past Christmas Bird Counts are many and varied. There are accounts of rarities found, weather challenges met, and many friends made. Some counts include a group breakfast, post-count pot luck dinner, or other activities. Some people do one count, others do many. In the past, I have used these counts not only to gather the standard species and individual count data, but to target specific species that I don't normally see in my area. My wish for the 2010 Christmas Bird Count is to find Pine and Evening Grosbeaks on a count in the northern part of the state. Whatever the reason, Christmas Bird Counts are great.

There are several ways that you can join the fun and add to the immense value of this great world-wide event:

1. Become a field observer. If you wish to be an observer on a count, contact one of the count organizers. For a complete list of counts and organizers/compilers, go to the Christmas Bird Counts page on the WSO web site at http://www.wsobirds.org/wso_christmas_bird_counts.html.
2. Become a feeder observer. Your observations from feeder stations are important. Feel free to contact count compilers to include your feeder counts.
3. Start a new count. If you would like to start a count, it is important that you contact Bob Domagalski (rcd2@wi.rr.com), Wisconsin's state Christmas Bird Count Coordinator, to register and get details on how to run a count. While there have been as many as 105 counts conducted across the state, there are still many areas not covered.

I remember fondly my many Christmas Bird Counts. From my first one in Oshkosh to more recent counts in the Madison area, all have been fun, interest-

ing, and very worthwhile. I encourage all of you to make your plans now. A Christmas Bird Count area is just waiting for you.

President

(Note: If you are interested in more details and history of Christmas Bird Counts in Wisconsin, search for "Christmas Bird Count" in the online Passenger Pigeon archive at http://digicoll.library.wisc.edu/EcoNatRes/subcollections/PassPigeonAbout.html)

Additional Information

The Fall 2009 issue of this journal contained the Fall seaonal report, as usual, and the latest edition of An Annotated Checklist of Wisconsin's birds. This issue has some additional information on both.

Bill Mueller and Cindy Kowalchuk worked long and hard compiling the Checklist that was in the Fall 2009 Pigeon, but as fate would have it, almost at the same time their Checklist appearred in the Pigeon the American Ornithologists' Union (AOU) published their latest changes to bird nomenclature in North America. WSO follows the AOU concerning names (English and Latin) for "our" birds and for taxonomic relationships of the birds.

So, pick up your Fall 2009 issue of the Pigeon and make the following notations in the Checklist article:

On page 245—insert Family: Odontophoridae from page 246 before Family: Phasianidae;
On page 265—change the spelling of the Latin name of the Boreal Chickadee to *Poecile hudsonicus;*
On page 273—change the Family for our Tanagers to Cardinalidae and move them to page 276 before Northern Cardinal;
On page 275—delete "Sharp-tailed" in the name Nelson's Sharp-tailed Sparrow. The English name is now Nelson's Sparrow;
On page 279—change the genus name of the Common and Hoary Redpolls to *Acanthis* (not *Carduelis)*; and
Also on page 279—change the genus name of the Pine Siskin and American Goldfinch to *Pinus* (not *Carduelis).*

Now you are up-to-date until the AOU makes more changes.

You will find an Addendum to the Fall 2008 report on the pages following this page.

Bettie and Neil Harriman, Editors

White-winged Crossbill *by Jack Bartholmai.*

Addendum to the Fall Season: 2008

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Several reports from hard copy report forms submitted were inadvertently missed in the compilations of the Fall 2008 Seasonal Report. After publication of the Fall 2009 Passenger Pigeon, several persons inquired about their sightings. The WSO Board discussed this issue and suggested an addendum to the fall seasonal report be published to fill in the missing information in the record.

WSO members that spend time and energy filling out these reports can rest assured the future submissions will be given appropriate consideration. The number of hard copy reports submitted is considerably less than just a few years ago, and this a good thing. Due to the widespread use of ebird, bird sighting data and the number of birders submitting have increase several fold. The data are much easier to compile and analyze with fewer human mistakes and omissions. In addition, the ebird program has exceptional capabilities to analyze bird frequencies, migration peaks, spatial locations of migration in the state, and long-term trends. The same analysis from hard copy data is extremely difficult if not impossible to retrieve.

The seasonal editors and the bird reports coordinator strongly encourage any birder with the ability to enter data onto ebird, to please do so. Of course, we do not single out those with limited or no computer access and gladly accept bird reports via any method.

Addendum to Fall Report (1 August–30 November 2008)

Cackling Goose—First reported from Manitowoc County on 9 September (Sontag), additional early reports were 17 September (WSO Field Trip, many observers), 20 September in Dane (Evanson) and 4 October in St. Croix Counties (Persico).

Greater Scaup—High count for the season was 2500 birds on 19 November in Manitowoc County (Sontag).

Harlequin Duck—Three additional sightings from Sheboygan County: 17 October (Wood), 15 November (Brassers), and 19 November (Tessen).

Surf Scoter—Tessen also saw the bird reported 17 September in Douglas

County; he also had 30 birds 19 October in Ozaukee County.

Black Scoter—First sighting was a single bird 18 September in Douglas County (Tessen) followed by 3 birds seen 19 October Ozaukee County (Tessen).

Long-tailed Duck—Highest count was 4000 birds seen 20 November in Manitowoc County (Sontag). Also reported from Waukesha County.

Common Goldeneye—At least 1000 birds were reported 10 November in Marinette County (Campbell).

Red-breasted Merganser—Tessen reported 1000 birds 19 November in Ozaukee and Manitowoc Counties.

Red-throated Loon—First seen on 17 September (Tessen and Johnson) in Douglas County.

Pacific Loon—The bird reported on 17 and 18 September in Douglas County was also seen by Tessen and Johnson.

Western Grebe—Omitted in the original report, this species was reported 12 October in Douglas (Johnson and Bruhnke) and 22–25 November in Waukesha Counties (Gustafson).

Cattle Egret—Last report was 19 November in Manitowoc County (Sontag).

Sharp-shinned Hawk—Highest daily count at Cedar Grove Hawk Research Station, Sheboygan County, was 227 on 9 October (H. Mueller).

Merlin—Highest daily count at Cedar Grove Hawk Research Station, Sheboygan County, was 67 on 9 October (H. Mueller).

Peregrine Falcon—Highest daily count at Cedar Grove Hawk Research Station, Sheboygan County, was 8 on 30 September (H. Mueller).

American Golden-Plover—Big flocks were reported 17 September with 130 birds noted (Tessen and Johnson), and 57 birds were seen 19 September in Oneida County (Gustafson).

Lesser Yellowlegs—An exceptionally high number of 600 birds estimated 9 September (Tessen).

Hudsonian Godwit—Omitted in the original report; Tessen supplied the only report of a single bird seen 21 September in Douglas County.

Ruddy Turnstone—Tessen also saw the Douglas County bird reported on 17 September.

Red Knot—In addition to the Prestby notation, Tessen saw this bird at Wisconsin Point, Douglas County. Another bird was seen 1 September in Ozaukee County (Wood).

Semipalmated Sandpiper—The latest fall departure was 10 birds seen 2 November in Columbia County (Tessen).

Stilt Sandpiper—Highest concentration was 250 birds seen 9 September in Dodge County (Tessen).

Buff-breasted Sandpiper—Add Johnson and Tessen to the observers of the 17 September bird in Douglas County;

highest number seen was 8 birds 9 September in Dodge County (Tessen), and also last observed 23 September in Racine County (Wood).

Long-billed Dowitcher—The largest concentration was 60 birds seen 4 October in Dodge County (Tessen).

Red-necked Phalarope—Add: Reported from eight additional counties.

Parasitic Jaeger—First seen by Tessen 16 September in Douglas County then he, along with the WSO field trip, saw individuals every day through the 21st. Johnson continued to observe individuals through 30 September at the same location.

Little Gull—In addition to Prestby, Tessen saw the 17 September bird in Douglas County.

Thayer's Gull—Add: also reported from Waukesha County.

Great Black-backed Gull—First reported 12 August in Sheboygan County (Brassers).

Short-eared Owl—Six birds were seen 31 October in Jefferson County (Etter Hale).

Common Nighthawk—Last reported on 19 October in Milwaukee County (Zehner).

Western Kingbird—Add, also reported by Tessen 9 September in Dodge County.

Eastern Kingbird—Eight birds were seen 24 August in Dodge County (Tessen).

Tree Swallow—Last report was 9 November in Manitowoc County (Sontag).

American Pipit—First seen 4 September in Douglas County (Johnson).

Magnolia Warbler—The highest seasonal total was 11 birds 17 September in St. Croix County (Persico).

Black-throated Blue Warbler—Last bird lingered until 9 November in Ozuakee County (Wood).

Blackburnian Warbler—The highest seasonal total was 7 birds 31 August in St. Croix County (Persico).

American Redstart—Replace last seen with: last seen 31 October in Waukesha County (Gustafson).

Northern Waterthrush—Last seen 3 October in Dane County (Evanson).

Connecticut Warbler—Last seen 2 October in Waukesha County (Gustafson).

Nelson's Sparrow—Additional sightings were 28 September in Jefferson County (Etter Hale), 4 October in Dodge County (Tessen), and 10 October in Waukesha County (Gustafson). [Note: *Nelson's Sharp-tailed Sparrow is now just known as Nelson's Sparrow according to an AOU decision.*]

Harris's Sparrow—Additional sightings were 20 September (Tessen) and 21 September though 3 October in Douglas County (Johnson).

Remainder of the list had technical issues with the Cornell database that

have now been resolved and the sparrow, finch, and blackbird enthusiasts can expect better coverage in the forthcoming issues. Please reference the winter lessons discussion regarding the White-winged Crossbill invasions that stated in the fall of 2008.

Contributors and Cited Observers

Add: Helmut Mueller and Robbye Johnson.

House Wren portrait *by Denny Malueg.*

Long-term Breeding Bird Surveys of Three State Natural Areas in the Baraboo Hills, Wisconsin

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ABSTRACT

The results of long-term breeding bird surveys (26–36 years) for the period 1971–2008 are reported herein for three State Natural Areas—Honey Creek, Hemlock Draw, and Pine Glen—in the Baraboo Hills of south-central Wisconsin. Most species showed significant change, mainly negative, in population levels. Hemlock Draw had the most species with significant decrease, while Pine Glen had the most species with significant increase. Change was shown for permanent residents, both short-distance and long-distance migrants, and for species of different feeding guilds. Fifty-three species were analyzed: only 7 species showed no significant trend. The number of species also changed over the course of these surveys: all three sites, especially Hemlock Draw, had significant declines in number of species. Alteration of the natural landscape is occurring both gradually and catastrophically. Natural succession is ongoing, but major agents of change in the study sites during the period of these surveys have also included seven major floods since 1990, two major ice storms, an outbreak of the two-lined chestnut borer from 1975–1978, fungal diseases of American elm and butternut, the continual spread of exotic plants and animals, and increasing numbers of deer. Possible problems for summer residents on their migration and on their wintering ground compound the complex task of determining causes for changes in populations or numbers of species, but natural forest succession, coupled with local disturbance, especially flooding, may be the overriding factor.

INTRODUCTION

The value of long-term biological research projects has often been acknowledged, but such projects remain relatively uncommon, at least in this country (Collins 2001). One such project was a thirty-year study (1969–1998) of the breeding birds in a deciduous forest in New Hampshire in which the researchers emphasized the value of long-term studies for these reasons: the detection of patterns or fluctuations which might be missed in long intervals, and the likelihood that no one common factor or event can

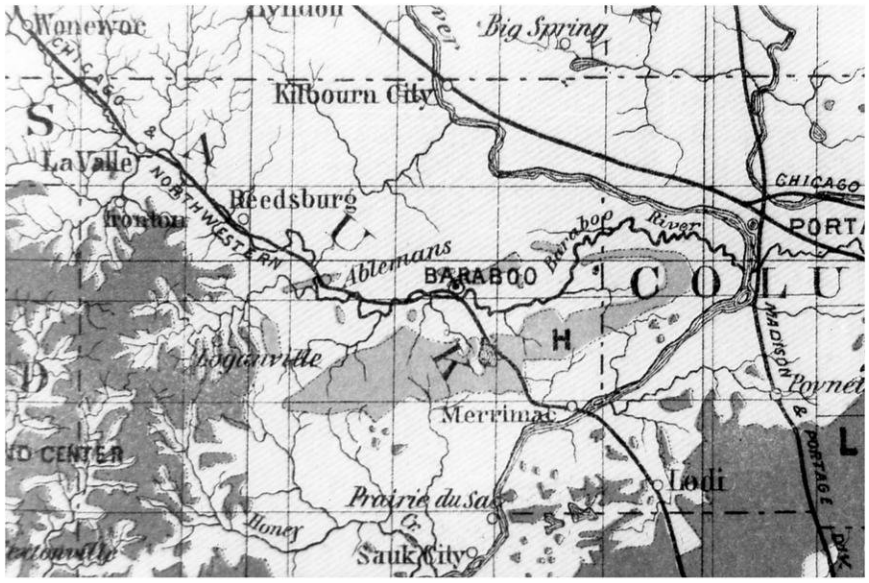

Figure 1. 1881 Map of the Baraboo Hills. Devil's Lake is just to the right of the letter "K" in the word "Sauk" (for Sauk County). "Ablemans" is now Rock Springs, and "Kilbourn City" is now Wisconsin Dells.

account for observed changes and that generalizations from one species to another are tenuous at best (Holmes and Sherry 2001). Herein I report on the results of breeding bird surveys for three State Natural Areas (SNAs)—Honey Creek, Hemlock Draw, and Pine Glen—within the Baraboo Hills of south-central Wisconsin for periods of 26–36 years.

The Baraboo Hills, comprising some 200 square miles (128,000 acres) is a formation of quartzite rock, elliptical in shape, in Sauk and Columbia Counties, extending for approximately 25 miles from the Village of Rock Springs in the west to the Cascade Mountain Ski Area in the east; the enclosed valley, called the Baraboo Valley, has a north-south distance averaging about 5 miles. The outermost boundary, in roadways, is roughly State Highways 23, 154 and 136 in the west, SH33 in the north, I90/94 in the east, and the northern edge of the Badger Army Ammunition Plant and County Highway C in the south. This major landform attains a maximum elevation of 1,593 feet at Point Sauk near Baraboo (Fig. 1).

Visited by geologists since at least 1848, the year that Wisconsin became a state, the Baraboo Hills has long been a well known locality for research and education by both geologists and biologists (Lange 1989). Also called the Baraboo Bluffs or Baraboo Range, this landform is now recognized by The Nature Conservancy as one of its Last Great Places. Often described as a forested island in a sea of woodlots and farmland, the Range is the largest relatively unfragmented landscape in this part of the state.

Mossman and Lange (1982) describe its geography, geology, vegetation, and bird life.

Study Sites

SNAs are tracts of land or water representing Wisconsin as it appeared before the advent of European settlement. They are established as noteworthy examples of native plant and animal communities, geological formations, and archeological sites, and administered by the State Natural Areas Program of the Bureau of Endangered Resources of the Wisconsin Department of Natural Resources (WDNR). For more information, see Meyer (2003).

All three study sites are located in Sauk County: Honey Creek (SNA Number 91) and Hemlock Draw (SNA Number 535) are located in the southwestern corner of the Baraboo Hills, and Pine Glen (now part of South Bluff/Devil's Nose SNA Number 97) is within Devil's Lake State Park (Figures 2, 3, 4).

Honey Creek is the location of the Wisconsin Society for Ornithology's annual hike to the waterfall; it is a diverse area, with southern dry-mesic to wet-mesic deciduous forest, hemlock groves on sandstone cliffs, sedge meadow with brushy edge, pasture, and shrubby meadow. One might feel confined in the other study sites because of their steep topography and narrowness, but likely not here. Honey Creek is relatively open, with

Figure 2. WSO Honey Creek Valley (wooded area near center of photo and left of vertical roadway); Nature Center is at lower center of photo at end of deadend road. Photo by Ted Cline, Photoair Inc., Traverse City, MI, courtesy Wisconsin Chapter of The Nature Conservancy.

Figure 3. Remains of the bridge for the old township road in the lower end of Hemlock Draw. Beginning of the Hemlock Draw BBS.

the widest floodplain of all the sites; this is implied in its usual appellation of Honey Creek Valley.

Hemlock Draw, an early project of the Wisconsin Chapter of The Nature Conservancy, includes drier (white oak) forest on the uplands, dry-mesic forest (red oak and red maple) and mesic forest (red oak and basswood with sugar maple and yellow birch) on the slopes and along the drainages, hemlock groves, skunk-cabbage patches, and a several acre clearing in the lower end now nearly filled in with successional shrubs and trees. The major drainage runs basically east-west, not north-south as in the other study sites; sandstone outcrops frequently along the creek.

But, as an interesting aside, why call this gorge a "draw"? According to the Dictionary of American Regional English (Cassidy and Hall 1991), draw is a name for a steep-sided ravine, often one that runs dry, and also a gently sloping valley; in all cases it is used

Figure 4. Aerial view of Pine Glen, looking south towards the Badger Army Ammunition Plant. Notice the two right-angle turns in the lower end of the gorge. Photo by L. J. Maher.

mainly west of the Mississippi River (I think of the cowboy song "Old Paint": ". . . they feed in the coulee, they water in the draw."). Whatever the meaning, Orie Loucks, a forest ecologist from Canada then on the faculty of the University of Wisconsin, after his initial exploration of this gorge, called it "the hemlock draw." Harold Kruse then dropped "the" and the name was born (Kruse [1998]).

In Pine Glen the land cover is dry-mesic forest, with white and red oaks, and red maple, and (along the creek) mesic forest, with red oak and basswood. Large solitary white pines are scattered throughout the relatively narrow gorge, and white pines of varying age are especially numerous by the quartzite ridge overlooking its lower end. This is a spectacular and rugged landform, with two right-angle turns in its lower end; it is approximately twice the depth of the better known Parfrey's Glen, which is also part of Devil's Lake State Park. Pine Glen is a hanging valley (Thwaites 1958); it has a fairly shallow dip in its upper reaches, but plunges precipitously in its lower reaches where it drains southwards into the area where the Badger Army Ammunition Plant is now located. "Glen" is a Scottish word for a narrow rocky ravine.

Community characterizations are after Curtis (1959) and Hoffman (2002). See Mossman and Lange (1982) for further descriptions of the study sites.

Methods

Surveys were run annually in June, usually by mid-month, except for the 1996 Hemlock Draw survey, which was run on 5 July. I began all surveys at approximately 0500, recording all birds seen and heard while walking a permanent route with frequent stops.

For the Honey Creek survey I followed the drainage from Sky View Road upstream to the third stream crossing. The total time for a given survey was one hour. This section of Honey Creek was surveyed every year from 1981 through 2008, except 1989 and 1996, for a total of 26 surveys. Coordinates are Township 10 North, Range 4 East, Section 11 (Black Hawk Quadrangle 7.5 Minute Series 1975). My original Honey Creek surveys, which I began in 1971 and ran through 1980, extended all the way to the waterfall in Section 35 in T11N R4E (Rock Springs Quadrangle 7.5 Minutes Series 1975); these early surveys are used here only for reference purposes, for example to note the presence or absence of a given species.

I began the Hemlock Draw survey by the old bridge approximately one-half mile north of the Reich Drive entry to the Draw, and ended where the no longer maintained Leopold Trail begins to leave the creek bottom; mainly I followed the creek. The total time for a given survey was two hours and ten minutes. This section of Hemlock Draw was surveyed every year, except 1989, from 1978 through 2008, a total of 30 surveys. Coordinates are T10N R5E from the northeast quarter of Section 7 into the northwest quarter of Section 8 and through approximately the middle of Section 5 (Black Hawk Quadrangle 7.5 Minute Series 1975). My original Hemlock Draw surveys, which I began in 1970 and ran through 1977, began by the gate at Reich Drive (approximately the middle of the western half of Section 7), not by the old bridge; they are used here only for reference purposes, for example to note the presence or absence of a given species.

For the Pine Glen survey I began at the upper end of the gorge by the WDNR gate on Upper Burma Road, and followed the ever deepening gorge downstream to the Badger Army Ammunition Plant fence. There is no trail; one has to cross the rocky stream bottom repeatedly. By the fence I climbed out of the gorge and since 2003 ended the survey on top of the nearby overlook. Previously I ended the survey at the WDNR gate, but since only gorge species are being compared, and since only a minimal number of gorge birds was ever detected in the section no longer used after 2002, the effect on trends from this change was judged to be insignificant. The total time for a given survey was approximately two hours and twenty minutes. Pine Glen was surveyed every year, except 1989 and 1996, from 1971 through 2008, a total of 36 surveys. Coordinates are T11N R6E Section 26 into the northern half of Section 35 (Baraboo and North Freedom Quadrangles 7.5 Minute Series 1975).

See Table 1 for survey information.

To maximize good hearing conditions, surveys in the gorges ideally should be run with little or no wind (always a good rule), and also with a minimum of running water. The former generally could be achieved, but not necessarily the latter; some birds

Table 1. Survey information for the study sites. [1] = except 1989 and 1996, [2] = except 1989.

Study Site	Years	No. of surveys	No. of species for all surveys	No. of species per given survey	Median No. of species thru 1999	Median No. of species 2000–2008
Honey Creek	1981–2008[1]	26	78	33–46	40	37
Hemlock Draw	1978–2008[2]	30	68	25–42	36	31
Pine Glen	1971–2008[1]	36	62	22–40	32	26

likely were missed in surveys with high water.

Individual survey data sheets and route documentations are in the SNA breeding bird survey files at WDNR's Science Operation Center in Madison.

Spearman rank correlation was used to analyze population trends; this nonparametric test is conservative in that it makes no assumptions about the distribution of numbers. Trends were calculated for each study site in which a species was found in 3 or more years. An "all sites" trend was also calculated using the average count during the 26 years in which all three sites were surveyed in the same year, provided that the given species was found on at least 5 surveys (the smallest number was 8 for Red-headed Woodpecker). The 53 species analyzed are listed in Tables 2 and 3. Analysis was done with ABstat 7.20 Software (1994, Anderson-Bell Corporation, Parker, Colorado), with statistical significance set at $P<0.05$ for 2-tailed tests. The number of species was also analyzed using Spearman rank correlation ($P<0.05$ for 2-tailed tests) for each site and for an "all sites" trend, as with population trends. Average species counts for each site and for all sites were also analyzed with Mann-Whitney U tests for differences among each pair of decades.

Results and Discussion

Agents of change—The natural landscape is ever changing, sometimes subtly, sometimes dramatically, and any discussion must be viewed through the lens of landscape alteration.

Gradual change is illustrated by natural succession. In a climatic area favoring deciduous forest, and with the abandonment of farmland and the suppression of fire, one can expect to see shrubs and trees from the nearby forest invading open ground, such as former workland and pasture, and reclaiming it as wooded cover. Succession within a given forest to a more enclosed canopy is also ongoing.

Dramatic change has also occurred. There have been several major windstorms in the Baraboo Hills during the time period of these surveys (none in the study sites), but the main overall force in rearranging the glens and gorges has been the massive flooding of recent years. Major floods swept through all three study sites on 28–29 June 1990, 28–29 April 1991, 17 July 1993, 1 June and 10 July 2000, and 7–8 and 12 June 2008; the 2008 floods were likely the most catastrophic overall.

I've never actually witnessed a peak head of flood water roaring through one of these sites, but it must be awe-

Table 2. Species analyzed for significant trends (P<0.05), according to Spearman rank correlation. + = increase, — = decrease, ~ = no change, NA = Not Analyzed. [1] = permanent resident, [2] = short-distance migrant, [3] = long-distance migrant*.

Species	Honey Creek	Hemlock Draw	Pine Glen	All Sites
Ruffed Grouse[1]	NA	—	—	—
Wild Turkey[1]	NA	+	+	+
Yellow-billed Cuckoo[3]	~	~	~	~
Barred Owl[1]	+	~	~	~
Ruby-throated Hummingbird[3]	~	~	~	+
Belted Kingfisher[2]	~	~	NA	~
Red-headed Woodpecker[1]	—	—	—	—
Red-bellied Woodpecker[1]	~	~	—	~
Downy Woodpecker[1]	—	—	—	—
Hairy Woodpecker[1]	~	—	—	—
Northern Flicker[2]	—	—	—	—
Pileated Woodpecker[1]	~	+	~	+
Eastern Wood-Pewee[3]	~	—	~	~
Acadian Flycatcher[3]	~	~	+	~
Eastern Phoebe[2]	+	+	+	+
Great Crested Flycatcher[3]	~	~	—	~
Yellow-throated Vireo[3]	~	~	+	~
Warbling Vireo[3]	—	NA	NA	
Red-eyed Vireo[3]	+	~	+	~
Blue Jay[1]	~	~	—	~
American Crow[1]	~	~	~	~
Black-capped Chickadee[1]	~	~	—	—
Tufted Titmouse[1]	~	+	NA	+
White-breasted Nuthatch[1]	—	~	—	—
House Wren[2]	+	NA	NA	
Blue-gray Gnatcatcher[3]	—	~	~	—
Veery[3]	+	~	+	+
Wood Thrush[3]	~	~	~	~
American Robin[2]	~	+	~	+
Gray Catbird[3]	—	—	NA	—
Blue-winged Warbler[3]	~	—	NA	—
Yellow Warbler[3]	—	NA	NA	
Black-throated Green Warbler[3]	~	+	~	+
Blackburnian Warbler[3]	NA	~	~	—
Cerulean Warbler[3]	NA	—	~	—
Black-and-white Warbler[3]	NA	~	~	~
Worm-eating Warbler[3]	NA	—	+	~
American Redstart[3]	+	+	+	+
Ovenbird[3]	~	—	~	—
Louisiana Waterthrush[3]	+	~	+	~
Common Yellowthroat[3]	~	~	NA	~
Canada Warbler[3]	NA	—	~	—
Scarlet Tanager[3]	~	—	~	—
Eastern Towhee[2]	~	~	+	~
Chipping Sparrow[2]	~	~	+	~
Song Sparrow[2]	~	NA	NA	
Swamp Sparrow[2]	—	NA	NA	
Northern Cardinal[1]	~	~	~	~
Rose-breasted Grosbeak[3]	+	~	—	+
Indigo Bunting[3]	~	—	—	—
Brown-headed Cowbird[2]	—	—	~	—
Baltimore Oriole[3]	—	~	—	—
American Goldfinch[2]	~	~	+	~

* = Short-distance migrants are those species traveling less than 1,000 miles between the centers of their summer and winter ranges, and long-distance migrants are those species traveling more than 1,000 miles (Temple and Cary 1987).

Table 3. Feeding guilds* for the species listed in Table 2.

	Feeding Guilds					
Species	wood drillers & bark gleaners	flycatchers	ground feeders	understory feeders	canopy/ understory	canopy feeders
Ruffed Grouse			X			
Wild Turkey			X			
Yellow-billed Cuckoo					X	
Ruby-thr. Hummingbird				X		
Red-headed Woodpecker	X					
Red-bellied Woodpecker	X					
Downy Woodpecker	X					
Hairy Woodpecker	X					
Northern Flicker			X			
Pileated Woodpecker	X					
Eastern Wood-Pewee		X				
Acadian Flycatcher		X				
Eastern Phoebe		X				
Great Creasted Flycatcher		X				
Yellow-throated Vireo						X
Warbling Vireo						X
Red-eyed Vireo					X	
Blue Jay				X		
American Crow			X			
Black-capped Chickadee					X	
Tufted Titmouse					X	
White-breasted Nuthatch	X					
House Wren				X		
Blue-gray Gnatcatcher						X
Veery			X			
Wood Thrush			X			
American Robin			X			
Gray Catbird				X		
Blue-winged Warbler				X		
Yellow Warbler				X		
Black-thr. Green Warbler						X
Blackburnian Warbler						X
Cerulean Warbler						X
Black-and-white Warbler	X					
Worm-eating Warbler			X			
American Redstart				X		
Ovenbird			X			
Louisiana Waterthrush			X			
Common Yellowthroat				X		
Canada Warbler				X		
Scarlet Tanager					X	
Eastern Towhee			X			
Chipping Sparrow					X	
Song Sparrow				X		
Swamp Sparrow				X		
Northern Cardinal					X	
Rose-breasted Grosbeak					X	
Indigo Bunting				X		
Baltimore Oriole						X
American Goldfinch					X	

* = From Mossman and Lange (1982).

Figure 5. Rock outwash by lower end of Pine Glen from the June 1990 flood; David C. Fordham in picture.

some. Boulders and uprooted trees become battering rams, while log jams form and break up and form again downstream. Some idea of the amount of rock being transported in one of these floods can be inferred from the following. A week after the 1990 flood, David C. Fordham and I investigated the outwash of rocks on the Badger Army Ammunition Plant by the lower end of Pine Glen; estimating its radius and average depth, and judging a cubic foot of rock to weigh 150 pounds, we calculated a total of 450–500 tons of rock (Fig. 5). In Hemlock Draw in 2008, banks were washed away with the sediment being carried downstream and deposited in bars and sheets up to several acres in extent (Fig. 6), while in Pine Glen canopy gaps became prominent by 2001 because of all the uprooted trees.

Another consequence of massive flooding is exemplified by the invasive mustard, Dame's Rocket (*Hesperis matronalis*): it exploded in the Honey Creek study site in the year after the 1993 flood; the seeds obviously were transported by the rushing water.

A new stream bed might be stabilized in 10 years or so, but the flood intervals are now less than 10 years, a sobering ecological note. Birds likely have been affected in a number of ways. One wonders, for example, how ground nesters in the flood zone might have adapted. Are at least some of them now finding suitable conditions for nesting in higher ground? Are they now renesting more often? And how much has the flooding been

Figure 6. Sedimentation from the June 2008 floods in Honey Creek, lower end of Hemlock Draw, between the entry gate on Reich Drive and the old bridge.

a factor in any change in their numbers?

Ice storms, which in Wisconsin are more prevalent in the southern part of the state than the northern, have undoubtedly occurred throughout postglacial time; during the course of these surveys, there were major ice storms in March 1976 and February 1986 (Lange 1990). Branches and trunks were bowed and broken, creating gaps and other changes in the forest canopy (Fig. 7). Any long-term ecological effects from these storms were likely minimal.

Brood parasitism by Brown-headed Cowbird, especially in isolated forest fragments and edge habitat, can reduce the reproductive success of certain forest songbirds (Brittingham and Temple 1983). Brown-headed Cowbird in these surveys, however, showed a decline or no change in numbers, and likely was not a contributory factor in the population trends.

During the survey years the Baraboo Range was also subjected to various insect pests and tree diseases (Lange 1990). From 1975–1978 the two-lined chestnut borer (*Agrilus bilineatus*) girdled and killed thousands of red and black oaks. The transient canopy gaps thereby created have since been filled by surrounding canopy trees, but not necessarily oaks. A tree disease of note is Dutch Elm Disease: the fungus reached Devil's Lake State Park by 1960, and a mature American elm (*Ulmus americana*) is now a rare sight in the Baraboo Hills and elsewhere. So too is a mature butternut (*Juglans cinerea*), which has

Figure 7. Effects of the February 1986 ice strom in Steinke Basin, Devil's Lake State Park.

been decimated by a fungal disease called butternut dieback. The newest threat to the deciduous forest is the emerald ash borer (*Agrilus planipennis*), which was discovered in Wisconsin in the southeastern part of the state in 2008; it girdles and kills ash trees.

Invasive plants are also changing the landscape. Species such as garlic mustard (*Alliaria petiolaris*) in the uplands and reed canary grass (*Phalaris arundinacea*) in the lowlands became widespread in the Baraboo Hills during the survey period; both have the potential for converting native plant communities into monocultures. Two woody exotic shrubs, common buckthorn (*Rhamnus cathartica*) and Asiatic honey suckle (*Lonicera tatarica*), are also now widespread; the latter species was referred to as "rare" in the study area in the late 1950s (Hartley 1966).

Burgeoning numbers of deer are impacting the forest understory and ground layer in various ways (Waller and Alverson 1997). Sometimes the mechanism is unexpected; for example, we now know that deer, like birds, are dispersal agents for a variety of plants, including such exotics as introduced honeysuckles (Vellend 2002, Williams and Ward 2006).

Exotic animals are also agents of change. Earthworms, for example, are not native to glaciated regions of North America; the local species are European imports, which are likely causing detrimental changes in the microbial and invertebrate communities of forest soil (Kearns 2008).

Possible problems for summer residents during their migration and on their wintering ground compound the task of determining causes for any significant changes.

Change in the study sites—All three study sites have changed noticeably over the course of these surveys. For

Table 4. Population trends of the species listed in Table 2, arranged by total number of species for each study site.

Study Site	Increase	Decrease	No change	Not Analyzed	Total
Honey Creek	8	11	27	7	53
Hemlock Draw	7	15	26	5	53
Pine Glen	12	13	18	10	53

Honey Creek major alterations have been the virtual disappearance of American elm, hence fewer trees along the creek; accelerated invasion by exotic plants, such as Dame's Rocket; and ongoing stream bank erosion and siltation, with an often shifting stream bed; and grazing by stray cattle. Hemlock Draw in recent years has experienced massive sedimentation, especially in its lower end, while Pine Glen has become more open-canopied along the stream, with little shrub encroachment. Canopy closure away from the stream beds is likely ongoing in all three sites.

Population and species changes—A total of 93 species was found on the study sites, and a total of 42 of these species was found on all three sites. Table 1 summarizes the survey information.

The 53 species analyzed for significant trends (Table 2) were also classified by feeding guild (Table 3).

Table 4 reveals that in terms of population trends Pine Glen has the most species (12) with significant increase, while Hemlock Draw has the most species (15) with significant decrease; Pine Glen is the only site with more species showing significant trends (increase and decrease combined—25) than species showing no significant trends (18).

The species most prominent for significant increase in numbers are the following: Wild Turkey, Eastern Phoebe, and American Redstart. Turkeys from Missouri were released in 1982 in two localities in the Baraboo Hills, and these birds and their descendants have since spread widely. They appeared in Devil's Lake State Park in the following year; the first known nesting in the park was in 1985. Turkeys were first noted on the Pine Glen survey in 1985, the Honey Creek survey in 1990, and the Hemlock Draw survey in 1995. I have no ready explanation for the increase in numbers of the Eastern Phoebe, a short-distance migrant: has a more open understory in the gorges from the flooding resulted in more feeding opportunities? American Redstart, a long-distance migrant and often found in forest edge and relatively open areas within a forest, has likely been favored by the increase in canopy gaps, for example from flooding. It has been found regularly, with increasing numbers, on both the Honey Creek and Hemlock Draw surveys since 1992; it was first noted in Pine Glen in 2003.

The United States Fish and Wildlife Service's North American Breeding Bird Surveys in Wisconsin have been analyzed for the period 1966–1991 (Robbins, Sample, Rasmussen, and

Mossman 1996). Wild Turkey increased significantly, but Eastern Phoebe showed only a nonsignificant increase and American Redstart was stable or possibly in decline. American Redstart in more recent years has actually increased significantly over its Midwestern range, for example in Chequamegon National Forest (Lind et al. 2003); the change in the study sites must be reflecting this regional trend.

Most prominent for significant decrease in numbers are these species: Ruffed Grouse, four woodpeckers, Gray Catbird, and Cerulean Warbler.

Expanding deer and turkey populations might be impacting ground nesting birds, such as Ruffed Grouse, but natural forest succession in reducing aspen and young oak stands could be the main factor in the widespread decline of grouse (Walter 2006). Clutches and coveys were found regularly through the 1980s, but have since become rare; my latest date for the Baraboo Hills (a nest in the Leland swamp discovered by M. J. Mossman) is 2000. Grouse were found through 1990 on the Pine Glen and Hemlock Draw surveys, and through 1991 on the Honey Creek survey; there have been no survey records in the last 17 years. My field notes since 1991 are sprinkled with such comments as "Low nos. continue" and "Nos. still low," and "Very little drumming" and "No records for drumming." The numbers of grouse on the Baraboo Christmas Bird Counts have also plummeted: only 9 birds have been found on just 7 of the last 18 counts (1991–2008), whereas 95 birds were found on 16 of the 18 Counts preceding the 1991 Count.

Red-headed Woodpecker was especially numerous in Honey Creek Valley from 1975–1981, when American elms were dying from Dutch Elm Disease. It was last found on a survey in Honey Creek in 1990, and in Hemlock Draw in 1982 and Pine Glen in 1977. The significant decline of both Downy and Hairy Woodpeckers is somewhat surprising, since they tend to occupy different habitats. The Downy is a generalist, but generally is more numerous in smaller woods and edges, whereas the Hairy is usually in larger woods and forest interior. Northern Flicker, the most terrestrial of local woodpeckers, prefers open areas for foraging, so its decline is likely related to the successional advance of shrubs and trees into fields adjoining forested areas.

Gray Catbird was found on all the Honey Creek surveys, but in declining numbers in recent years. The Hemlock Draw and Pine Glen records for this species were from earlier years, when its preferred brushy habitat, for example in the Hemlock Draw clearing and lower end of Pine Glen, was more widespread.

Cerulean Warbler in Honey Creek was noted regularly (1–3 birds) through 1980, but just once (1998—1 bird) in the period 1981–2008. It continues to be found on the Hemlock Draw and Pine Glen surveys, but irregularly. Maximum numbers on any survey were 4 and 5 in 1981 and 1986, respectively, in Hemlock Draw. This species is in decline over much of its range: it is referred to in the North American Landbird Conservation Plan (Rich 2004) as one of the most threatened birds of the deciduous forest.

The Wisconsin surveys for the period 1966–1991 indicated a stable

trend in Ruffed Grouse, a significant increase in Hairy Woodpecker and a nonsignificant increase in Downy Woodpecker, significant declines in Northern Flicker and especially Red-headed Woodpecker, a stable trend in Gray Catbird, and a slight increase in Cerulean Warbler.

Discrepancies between my surveys and the Wisconsin surveys are due, at least in some species, to the time period (1971–2008 versus 1966–1991) and/or the area of coverage (local versus state-wide); the type of survey (off road versus roadside) may also have been a factor.

It would be interesting to compare the trends revealed in my study area with those detected by the Wisconsin breeding bird surveys since 1991, but this was deferred for now. One hopes this will be covered in a more encompassing study of bird populations in the Baraboo Hills at some future date.

Populations of 18 species had positive or negative changes when the study sites were analyzed together, but not in all sites when they were analyzed separately. Both groups consisted mostly of long-distance migrants, but also included short-distance migrants and permanent residents; a number of feeding guilds was also represented. Another group of 13 species exhibited no significant trend when the study sites were analyzed together, but showed an increase or decrease in one or more sites when they were analyzed separately. This was also a mixed group, with 7 long-distance migrants, 3 short-distance migrants, and 3 permanent residents; species of different feeding guilds were again represented. Finally, these 7 species showed no significant trend: Yellow-billed Cuckoo, Belted Kingfisher, American Crow, Wood Thrush, Black-and-white Warbler, Common Yellowthroat, and Northern Cardinal.

The number of species, like the number of individuals, is also changing. All three sites but especially Hemlock Draw showed significant declines in number of species. Table 1 gives some idea of these declines, in terms of median number of species. The forests of the Baraboo Hills, as elsewhere (Rooney and Walter 2008), are undergoing continual simplification, with decreasing numbers of native plants and animals and increasing numbers of exotic species.

Conclusion

What can we conclude from all this? Significant change in population levels, both positive and negative but especially negative, is occurring for both migrants and permanent residents, and for species of varying feeding guild. At the same time these surveys have also revealed that the number of species is declining. Natural forest succession, in terms of canopy closure and conversion of old field to forest, coupled with local disturbance, especially flooding, may be the driving force behind many of these changes.

The thirty-year New Hampshire study (Holmes and Sherry 2001) is pertinent, in that it revealed that bird populations can change, sometimes markedly so, even within relatively undisturbed forest. This was attributed primarily to change over time in forest vegetative structure from natural forest succession, allied with local disturbance (mainly windstorms and heavy icing).

Disturbance as an ecological factor

should be incorporated into the more stable and orderly mechanism of succession, such that a biotic community is viewed as a restless, changing mosaic, rather than as an ecosystem in equilibrium with its environment (Lange 1990). But determining cause—the next step after documenting change—remains a major challenge (Temple and Cary 2007, 2008).

Acknowledgments

This paper is dedicated to a special friend, David C. Fordham (1942–2003), who died much too soon. Dave publicly was the Civilian Commander at the Badger Army Ammunition Plant, but at heart an Aldo Leopold advocate and outdoorsman. He helped so many people in so many ways, and was one of those individuals that one values evermore with the passing of time. Dave joined me on bird surveys whenever he could, and on other outings and activities—I only wish that we had spent more time together.

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Ken Lange was born and raised in Milwaukee, and attended the University of Wisconsin where he received a B.S. in Education. On the advice of John T. Emlen, Jr., he then enrolled at the University of Arizona for an M.S. in Mammalogy. He was the main writer for the first edition of Mammals of the World, which was published by Johns Hopkins Press, and then worked in Madagascar for the Smithsonian Institution for a year. After returning from overseas, Ken secured a curatorial position in the Division of Mammals in the Smithsonian's Museum of Natural History, but was overjoyed when he received a telegram (yes, a telegram—this was in 1965) offering him the Naturalist position at Devil's Lake State Park. He held this position from 1966 until retiring in 1996. He lives in Baraboo with his wife, Esther, and continues to be active in a number of fields. Ken doesn't yodel, but he does credit his love of the outdoors largely to the influence of his Mother, who was from Switzerland and emigrated when she was 18.

Great Crested Flycatcher *by Denny Malueg.*

Red-headed Woodpecker Habitat Associations in Southwest Wisconsin

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ABSTRACT

Red-headed Woodpecker (Melanerpes erythrocephalus) *populations have declined in Wisconsin. The loss of natural Red-headed Woodpecker habitat (i.e., oak savanna) because of fire suppression and conversion to agriculture is cited as the primary reason for declines and has forced the species to use other habitats. We quantified habitat associations of Red-headed Woodpeckers in southwest Wisconsin and compared habitat variables at points where woodpeckers were detected with random points. Our results suggest distance to road, number of snags, and amount of tree cover in pastures were positively related to Red-headed Woodpecker occurrence. Pastures with tree cover tend to most resemble savanna habitat and provide foraging opportunities for Red-headed Woodpeckers and snags provide potential nesting sites. We conclude that Red-headed Woodpeckers in agricultural areas would benefit from two habitat management practices that would not affect agricultural production: (1) retaining dead trees and (2) maintaining tree cover in pastures.*

INTRODUCTION

In Wisconsin, the Red-headed Woodpecker (*Melanerpes erythrocephalus*) is

listed as a species of special concern (Wisconsin Natural Heritage Program 2004) and has declined 8.7% annually since 1980 (Sauer et al. 2005). Habitat loss and degradation are cited as the major reasons for population declines of this species (Smith et al. 2000). Before the early 1800s, Red-headed Woodpecker habitat in southern Wisconsin consisted primarily of savannas, but long term fire suppression and conversion to agriculture have degraded or eliminated most of that habitat (Henderson 1995). Red-headed Woodpeckers also use anthropogenically created habitats (*e.g.*, pasture, golf courses) that facilitate common foraging techniques used by the species (*i.e.*, fly catching, stooping; Jackson 1976; Venables and Collopy 1989). The availability of nesting sites (snags and dead limbs) can also affect Red-headed Woodpecker abundance (Rodewald et al. 2005).

Some studies have quantified nest-site characteristics and/or habitat directly adjacent to nest sites (*e.g.*,. Jackson 1976, Conner et al. 1994). Few studies, however, have quantified occupied Red-headed Woodpecker habitat and compared it with available habitat (Gutzwiler and Anderson 1987, Giese and Cuthbert 2003, Rodewald et al. 2005), especially in an agricultural landscape. We compared habitat used by Red-headed Woodpeckers with available habitat in southwest Wisconsin.

Study Area

Our study took place in a ~620,000-ha area within Dane, Grant, Green, Iowa, and Lafayette Counties in southwest Wisconsin. The area consists of rolling hills in the southwestern uplands of the Driftless Area of Wisconsin (Martin 1965). Historically, the area was composed of a mixture of oak savanna, tallgrass prairie, and deciduous forest. The land use/land cover in the area currently is composed mostly of grassland/herbaceous land covers (*e.g.*, pastures, hay fields, Conservation Reserve Program fields; 57%), row crops (22%) and deciduous forest (18%) (National Land Cover Dataset [Vogelmann 2001]).

Methods

Red-headed Woodpeckers were recorded during standardized roadside surveys as part of a larger study (Murray et al. 2008). These surveys consisted of roadside routes of three 5-minute, 400-m radius point counts spaced 0.8 km apart. Routes were surveyed twice between 15 May and 10 July 2003–2005. In addition, observations of Red-headed Woodpeckers were recorded during travel between survey points and to and from research areas by seven researchers each year. All detections were recorded on detailed road maps and entered into a geographic information system. A total of 189 Red-headed Woodpecker detections were recorded during the three years (Fig. 1). To avoid potentially double-counting individuals, we excluded detections closer to each other than the diameter (328 m) of the largest territory size reported for the Red-headed Woodpecker, 8.5 ha (Venables and Collopy 1989), by randomly selecting one of the detections. Thus, analyses were conducted based on 153 Red-headed Woodpecker detections.

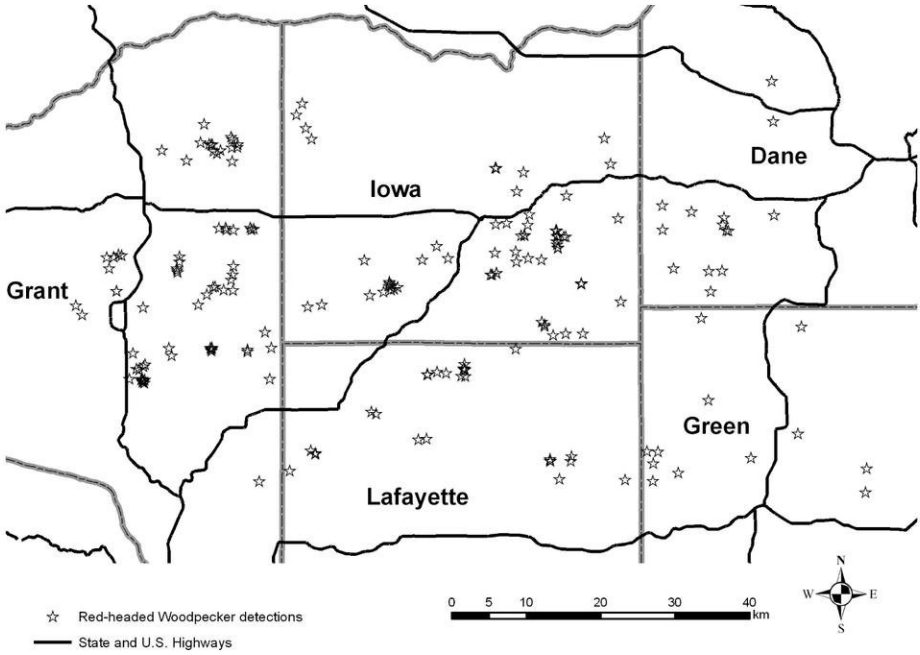

Figure 1. Map of observations of Red-headed Woodpckers in Dane, Grant, Green, Iowa, and Lafayette Counties in southwest Wisconsin. Observations were recorded during roadside surveys and travel to and from study areas during May, June, and July of 2003, 2004, and 2005.

To assess the available habitat within the study area, we selected random points by using The Animal Movement Program for ArcView (Hooge et al. 1999). Random points were restricted to be greater than 328 m apart to match the criteria we applied to Red-headed Woodpecker detections relative to territory size. We selected 153 random points to match the number of woodpecker detections used in our analyses.

The Wisconsin Initiative for Statewide Cooperation on Landscape Analysis and Data (WISCLAND) landcover data generated from 1992 Landsat Thematic Mapper images (Wisconsin Department of Natural Resources 1998) and visual estimates of habitat variables were used to estimate habitat within 200 m of each Red-headed Woodpecker detection and random point. We measured variables in a 200-m radius because it closely approximates the size of a woodpecker territory and because it allowed for reliable visual estimate of habitat variables.

Within 200 m of each point we measured the proportion of grassland (including pasture and hay) and forest from the WISCLAND data using a geographic information system. We also visited locations of all detections and random points once during July or August in either 2004 or 2005 to collect data on additional habitat variables. We visually estimated variables from the roadside because of the logistical constraints of gaining access to

Table 1. Means, minimums, and maximums of habitat characteristics measured within 200 m of sites of Red-headed Woodpecker detections (n=153) and random points (n=153) in southwest Wisconsin during May, June, and July of 2003, 2004, and 2005. Habitat characteristics were measured using WISCLAND (Wisconsin Initiative for Statewide Cooperation on Landscape Analysis and Data) data in a geographic information system and visual estimation from roadsides. Variables in bold had statistical support for being important variables for differentiating between random points and Red-headed Woodpecker occurrences.

	Detections			Random Points		
Habitat variable	Mean	Min	Max	Mean	Min	Max
Distance to road (m)	87	0	415	280	4	1123
Number of poles	4.0	0	16	3.0	0	12
Number of snags	3.8	0	25	1.6	0	15
Proportion in forest	0.13	0.00	0.72	0.16	0.00	0.98
Proportion in grazed forest	0.02	0.00	0.44	0.01	0.00	0.73
Proportion in pasture	0.16	0.00	0.91	0.14	0.00	0.84
Proportion of tree cover in pastures	0.05	0.00	0.70	0.03	0.00	0.50

private land at all 306 points used in analyses. The first author recorded the number of snags (dead trees), number of utility poles (potential perches and drumming posts), proportion of forest currently or recently grazed, proportion of grassland in pasture, and proportion of tree cover in pastures.

The proportion of grassland in pasture was multiplied by the proportion of the area in grassland to estimate the proportion of the area in pasture. The product of the proportion of forest within 200 m of the point and the proportion of forest that was grazed was used as an estimate of the proportion of grazed forest in the buffer area.

We used logistic regression to determine which habitat characteristics best differentiated between points where woodpeckers were seen and the random points. Habitat variables included in the model were proportion of the area in forest, proportion of the area in grazed forest, proportion of the area in pasture, number of utility poles, number of snags, and proportion of tree cover in pastures within 200 m of the point. Analyses were done using the statistical package R (R Development Core Team 2004)

Results

Mean habitat characteristics surrounding woodpecker observations and random points were generally similar (Table 1). However, our analysis showed some differences. Specifically, the number of snags near woodpecker detections was more than double the number around random points. The proportion of tree cover in pastures around woodpecker detections also was higher than that available in the study area. In addition, the average distance from the road was less for observations than for random points. All other habitat variables did not have statistical support for being important characteristics for differen-

tiating between random points and woodpecker sightings.

Discussion

Our findings suggest Red-headed Woodpeckers occur more commonly in areas with more snags and pastures with more tree cover. In addition, the distance from a point to the road was less for observations than for random points. Only slight differences were noted between random points and woodpecker detections for other habitat characteristics we used.

The amount of tree cover in a pasture was important in describing areas of Red-headed Woodpecker detections and these areas more closely resemble historical savanna habitat than other current habitats in the area. Both savannas and pastures with tree cover provide an overstory of large trees with an open understory of grasses and herbaceous vegetation which facilitate the common foraging techniques of the woodpecker.

The occurrence of Red-headed Woodpeckers was associated with the number of snags in an area as has been found elsewhere (Giese and Cuthbert 2003, Rodewald et al. 2005, King et al. 2007). Rodewald et al. (2005) suggested dead limbs on live trees are important nest sites and King et al. (2007) suggest overall decadence of trees might be more important in nest-site selection than number of snags. We were not able to estimate the amount of dead limbs because of logistical constraints so we were not able to determine the relationship between woodpecker occurrence and overall decadence.

We detected most Red-headed Woodpeckers along roadsides and thus the mean distance to a road was shorter for observations than random points. It should be noted, however, that Red-headed Woodpeckers might be attracted to roadsides because open areas near roads provide foraging habitat (Smith et al. 2000, Mueller 2001) and thus habitat near roads may have a higher likelihood of attracting Red-headed Woodpeckers independent of our observation bias.

Although our results provide a description of basic habitat elements associated with Red-headed Woodpecker occurrence, other variables could help refine the description of woodpecker habitat. For example, tree species composition in forest patches and pastures in the area could be important to Red-headed Woodpeckers. Abundance of hard-mast trees has been associated with the species' occurrence on golf courses (Rodewald et al. 2005) and the presence of oak trees (*Quercus* spp.) was positively associated with winter woodpecker abundance because oak mast provided an important food source (Smith and Scarlett 1987).

The occurrence of Red-headed Woodpeckers also could be influenced by competitors. Ingold (1989, 1994) found that 7–15% of Red-headed Woodpecker cavities were usurped by European Starlings (*Sturnus vulgaris*). In addition, Red-bellied Woodpeckers might compete for Red-headed Woodpeckers for nesting sites as was seen in Kansas (Jackson 1976). Thus Red-headed Woodpeckers might not occur in areas with sufficient habitat because of exclusion by a competitor.

Future research on Red-headed Woodpeckers in agricultural land-

scapes should consider incorporating competitor presence, total stand decadence, and tree species composition into the study design. The threshold density of snags (King et al. 1995) needed by Red-headed Woodpeckers also should be evaluated to give guidance into how many snags are required in an area. The amount of tree cover in pastures that maximizes the probability of use by woodpeckers also would be useful in guiding management recommendations. In addition, more detailed study of woodpecker population ecology in an agricultural ecosystem would be important to determine if these habitats are sufficient to maintain a stable population.

In conclusion, we found more snags and more tree cover in pastures around points of Red-headed Woodpecker detections than was available at random sites in the study area. Management of these habitat components in agricultural areas by maintaining tree cover in pastures to facilitate foraging and retaining or creating snags to promote nesting would benefit this species without affecting agricultural production.

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Pomarine Jaeger as portrayed *by Seth Cutright.*

Nineteenth Century Turkey Vulture Roost in Waukesha County

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Mossman (1991), in a thorough review of past and recent status of the Turkey Vulture in Wisconsin, reported that almost all accounts considered the species uncommon or even rare and irregular as a migrant and summer resident in the state until the late 1940s and early 1950s. Site specific records in the 19th century appear to be limited to those listed by Kumlien and Hollister (1903) and by Mossman and Lange (1982) for 13 counties: Racine, Milwaukee, Manitowoc, Brown, Walworth, Jefferson, Dodge, Outagamie, Columbia, Sauk, Portage, Pierce, and Bayfield (Iron River, not Iron Co., contra Robbins 1991). Thiel (1977), citing Coles (1938), gave 1902 and 1905 as the earliest available records of the Turkey Vulture in Waukesha County. However, we found an unpublished report of a vulture roost at Oconomowoc, Waukesha Co., in the memoirs of David Hastings (1812–1903), whose "notebook" is now housed at Oconomowoc Public Library. Hastings homesteaded on the shore of Lac LaBelle about 1842. Writing circa 1890, he described the nearby

> *Spaulding farm* upon which Buzzard Point is located. As I named this point *many years ago*, I will give the reason. At one time it was the roosting and I think the nesting place for *immense flocks* of these birds, and on a certain occasion I shot one with my rifle just to see how it looked. It was not quite dead when I lifted it up by a wing and as I held the thing up, it exuded a smelly mixture from its bill. A skunk's perfume would be a flower-bed in comparison to it. The Point at that time was the *filthiest* spot I ever saw . . . . [The] birds are said to live on dead fish and other offal, and the stuff that they vomit forth is their means of defense and it ought to protect them [emphases added].

Hastings' careful catalog of land ownership around Lac LaBelle ca. 1890 and a contemporary (1891) plat map put Spaulding's "Sand Beach Farm" and "Buzzard Point" on the east shore of the lake at the center of T8N R17E S29. The site is now a residential area along Nokoma Drive, just off Sand Beach Road.

Hastings' description of the birds' regurgitative defense shows that these were indeed vultures, although his speculation about nesting is unsupported. In our experience, "filthiest" (with a bit of license) does convey the abundant amounts of excrement and shed feathers beneath regularly used vulture roosts. Even though Hastings was inexplicit about a date "many years ago" and his concept of "immense flocks," it seems evident that more than a few vultures roosted at Oconomowoc at some time in the mid 1800s.

Hastings' memoir fills a minor gap in the known distribution of the Turkey Vulture in southeastern Wisconsin in the 1800s. It is perhaps more interesting that he described a roost of multiple or many vultures at a time when similar observations were lacking elsewhere in the state. We re-examined each of the older sources cited by Mossman (1991); none of them made mention of communal roosts, or even vulture flocks, in 19th century Wisconsin.

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Variation in Detection of Short-eared and Snowy Owls at Buena Vista Grassland, 1997–2008

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ABSTRACT

Our daytime walking surveys at Buena Vista Grassland, 1997–2008 and driving surveys during the day, evening, and night showed great variation in Short-eared Owl detection (1451 contacts) among daily time periods, seasons, and years. Snowy Owl detection (55 contacts) showed less variation among daily time periods but also had great variation among seasons and years. Snowy and Short-eared Owls overlapped only a little in occurrence, with Short-eared Owls less abundant and Snowy Owls more abundant in winters with higher percentages of snow cover. Short-eared Owls were most detectable in spring and usually by crepuscular timing (twilight), but were more detectable by nocturnal driving in summer and fall (when fledged young come to roads) than spring. Efficient methods for monitoring Short-eared Owls varied among seasons, but 1) driving surveys in the last hour before civil twilight were always relatively effective; 2) driving surveys after dark in summer and fall generated relatively high detection rates on dirt/gravel roads; 3) in spring when owls were active earlier before dark, very high detection rates could occur on driving surveys one to several hours before civil twilight; and, 4) walking surveys were never efficient but these otherwise valuable multi-species grassland bird surveys generated a small number of supplementary Short-eared Owl observations at all seasons.

INTRODUCTION

In addition to being nocturnal, the Short-eared Owl (*Asio flammeus*) is often crepuscular and sometimes active during the day, so that it's easier to see than most other owls (Clark

1975, Mikkola 1983, Swengel and Swengel 2002). A much wider range of the species' behavioral repertoire can also be observed than just flushing off a day roost or flying away in moonlight or headlights. Short-eared Owls have a reputation for huge variation in numbers in both the winter and breeding seasons (Clark 1975, Johnsgard 1988, Robbins 1991, Houston 1997), and are an uncommon and highly variable breeder in Wisconsin (Evrard 2006). Snowy Owls (*Bubo scandiacus*) are even more diurnal. Although Wisconsin is not a prime wintering area for Snowy Owls (Kerlinger and Lein 1988), they winter widely here in relatively low numbers and with wide variation in abundance among winters (Sindelar 1966, Robbins 1991).

Short-eared Owls are of conservation concern because of their steep population decline, including a 92% drop in Canada and a 62% decline in the United States on Breeding Bird Surveys since 1966 (Downes and Collins 2007, Sauer et al. 2008). Monitoring is a cornerstone of successful conservation action (Thomas 2005, Buckland et al. 2008), and to be effective, an understanding of variation in daily, seasonal, and annual detection is necessary (e.g., Poulin et al. 2001). Results should be efficiently obtained while also mirroring true population changes (Hochachka et al. 2000, Buckland et al. 2008).

The Short-eared Owl's large interannual variability in local abundance and largely crepuscular and nocturnal activity (Beske and Champion 1971, Clark 1975, Robbins 1991) create challenges for effective monitoring. As a result, we chose a mixed strategy for studying Short-eared Owls: 1) including them in a high-effort grassland bird survey on foot that generated many observations of numerous other target species even when we found few Short-eared Owls (Swengel and Swengel 2000), and 2) evening, dusk, and nighttime drives and watches designed to obtain higher Short-eared Owl detection rates. Detection rates of animals in large-scale multi-species sampling are highly correlated with population sizes determined for those species by intensive single species studies (Hochachka et al. 2000).

Here we report our observations on daily, seasonal, and annual variation in detection of Short-eared Owls at Buena Vista Grassland, Wisconsin, a site with exceptional numbers of Short-eared Owls. As a comparison, we provide additional observations from Pine Island Wildlife Area, and data on Snowy Owls at both sites. An understanding of these patterns of variation can be used to increase the efficiency and success of monitoring these species.

Methods

Study sites—

Buena Vista Grassland (or Marsh) in Portage County is one of the largest grasslands east of the Mississippi River, with 4,800 ha of public land and a large amount of surrounding private grassland (Wisconsin DNR 1995, Toepfer 2003, Berner 2009). The two disjunct grassland patches we surveyed on foot at Pine Island Wildlife Area in Columbia County (Hoffman and Schwalbe 2009) totaled about 120 ha, but we conducted dusk point scans only at the larger patch (>100 ha).

Walking surveys—

We conducted formal transect surveys on foot at Buena Vista Grassland in Portage County (1997–2009) and May-August 1993–2009 at Pine Island While these walking surveys were originally designed to survey butterflies and breeding birds, we extended them at Buena Vista into late fall 2000 after a massive Short-eared Owl year there and began doing them there year-round beginning in March 2001. The two authors conducted unlimited width transect surveys (as in Emlen 1971, 1984) along similar routes each year (Swengel and Swengel 1999), while walking at a slow pace (1.5–2 km/hr) on parallel routes 5–10 m apart. We counted adults of all observed butterflies and selected grassland bird species (listed in Swengel and Swengel 2000), including Short-eared and Snowy Owls, detected by sight or sound ahead and to the sides, to the limit at which a species could be identified (possibly with binoculars after detection) and tracked.

At each site, a new census unit was designated whenever the fixed route changed in vegetation type, degree of floristic degradation, or management. Routes maximized sampling per unit but crossed rather than followed ecotones and management boundaries to reduce edge effects. At Buena Vista it was feasible to standardize the survey route to an 800 m square (200 m per side), typically set in the center of a 40 acre square block of land. At Pine Island, unit size and route length varied due to variation in size of land management treatments. For each unit, we recorded temperature, time spent surveying, wind speed, percent cloud cover, percent time the sun was shining, and route distance. Surveys at these sites occurred during a wide range of times of day (from 600 hr to 1750 hr CST, all in broad daylight) and weather conditions, occasionally in intermittent or light rain. Starting in winter 2001, we took measures of snow depth (cm) and percent snow cover. But we did not measure snow cover in 2002, and we recorded only positive snow values (not zeroes) through March 2002. We started recording absence of snow in December 2002, and we recorded these snow measures on all winter dates beginning in January 2004. Data were kept separate by unit.

Short-eared Owl adults and young of the year were recorded separately, but we undoubtedly classified some fledged young as adults in an effort to count young conservatively (i.e., locally bred, as per Breeding Bird Atlas Guidelines: Cutright et al. 2006). We also recorded all Short-eared Owls detected between arrival and departure from the parking spot for a unit but outside the time span and/or unit boundaries of the formal survey. Thus, we distinguished between adults and juveniles, and owls within the unit being surveyed or as on an unlimited width transect (i.e., outside the unit). The same protocol applied to Snowy Owl. We tried to avoid double-counting an individual, either within or among units, during a survey (i.e., if an owl was re-detected, the timing and location of this was noted, but as a repeat observation of a previous individual). We did not attempt to find nests but if we flushed an owl off a nest, we approached no more closely to the nest, walked quickly away from the nest, and did not walk into the unit again until well after fledging would

have occurred, in an effort to reduce researcher disturbance to the owls and nests.

Driving surveys—

At Buena Vista, these surveys consisted primarily of driving around with occasional scans and short walks into the grassland. Some daytime drives covered areas between walking surveys (time spent on walking surveys was deducted out of total time spent on the driving survey), while other daytime and all crepuscular and nighttime drives maximized area covered with minimal route repetition within a "session." At Pine Island, where roads provide frontage to the habitat only, we parked to do scans with binoculars and scope at the largest grassland patch there (>100 ha). At both sites we recorded the start and end time and weather characteristics of each session and we counted all birds of prey and a suite of other grassland birds of interest. These surveys occurred in a wider range of times of day, including before sunrise and after sunset, and in all months of the year at Buena Vista, but not in summer at Pine Island. Analyzable data from this source started in January 2000, when we started observing Short-eared Owls regularly in seasons other than summer at Buena Vista near and at dusk and kept more detailed notes on when observation periods started and ended, where we went, and how many we observed of each target species.

We noted whether each owl contact (record, or episode of observing an individual owl at a particular time and place) was distinguishable as a juvenile or not as on walking surveys. We coded each contact by whether we judged it to be a new individual or a repeat observation of an individual previously recorded during a driving session that day. We also identified when we thought it was too dark to observe birds reliably without headlight beams (equivalent to civil twilight), without foreknowledge of the timing of civil twilight (defined as the end time before sunrise and start time after sunset when it is too dark to conduct typical outdoor activities without artificial illumination). We then obtained civil twilight tables based on the relationship of earth to sun from www.usno.navy.mil/ (website of the U.S. Naval Observatory), using the nearest available city: Wisconsin Rapids for Buena Vista and Portage for Pine Island. However, the website explains that weather conditions and lunar phase can affect when a certain level of darkness is actually reached. We used these tables for dates on which we were not there at civil twilight to record when that happened. For analysis of owl detection, we used civil twilight rather than sunrise/sunset, since the former more accurately defines the typical limits for bird-watchers to be able to see this species.

Data analysis—

For both walking and driving sessions, we were conservative in counting contacts. Even if observation of the bird was not continuous (for example, the owl hovered and swooped to the ground and flew up again, or flew out of sight and then flew back in view, or its perch site was not continuously visible to us because of obscuring topography), but periodically we observed an individual in the same general locality while we were conducting one visit to that area, then we

counted it as one continuous contact. We attributed birds as repeats if seen in the same general area during a different pass through the area on the same date. However, we started over in counting contacts as new or repeats between days, and within day between the walking surveys and later driving sessions, because we did not feel confident we could individuate birds and properly assign which were new or repeat. In the analyses here, we include both new and repeat contacts, because we were interested in portraying detectability (frequency of contacts) rather than actual number of owls believed to be present in the area on that date.

We divided observations into four seasons: winter (1 December to 15 March), spring (16 March to 30 April), summer (1 May to 31 August), and fall (1 September to 30 November). This is based on the approximate seasonal timing we observed for Short-eared and Snowy Owls: primary spring and fall passage occurs in those seasons as we defined them, and breeding behavior primarily in summer as we defined it.

For each season from January 2000 through August 2008 at Buena Vista Grassland, we computed observation rates of the total number of Short-eared Owl contacts recorded per total amount of time spent on driving sessions in each of these daily time "periods": diurnal (session entirely 1 hr after morning civil twilight and 1 hr before evening civil twilight), early evening (session ending within 1 hr but before evening civil twilight), late evening (session ending at evening civil twilight), and nocturnal (session beginning at or after evening civil twilight). We excluded from driving sessions time and birds recorded in walking surveys. For comparison, we calculated the observation rate during daytime grassland walking surveys treated as a separate diurnal period. We excluded morning sessions that were nocturnal or crepuscular (any observation time earlier than 1 hr after morning civil twilight) because of small sample size. We did the same calculations for Snowy Owl. For all dates at Buena Vista with snow measures within a winter season, we averaged those values to calculate an index of snow depth and cover for that winter. These values varied by date from 0–100% cover and 0–65 cm depth.

We used the Spearman rank correlation to test for correlation of observation rates (1) between all pairs of survey methods and daily periods, separately for both owl species and (2) between consecutive seasons separately by survey method/period (spring to summer, summer to fall) for Short-eared Owl only. The latter analysis was not possible for Snowy Owl, as it was primarily detected only in winter. We used the Wilcoxon signed ranks test to examine differences in observation rates (1) between daily periods (for driving sessions only; all walking surveys occurred in the diurnal period), separately by season and for all seasons combined, and (2) between consecutive seasons, separately for each daily period. We did no statistical testing on the smaller dataset from Pine Island.

We computed all statistics with ABstat 7.20 software (Anderson-Bell 1994). Significance was initially set as a two-tailed $P<0.05$. Since significant results occurred overall at a frequency well above that expected due to spuri-

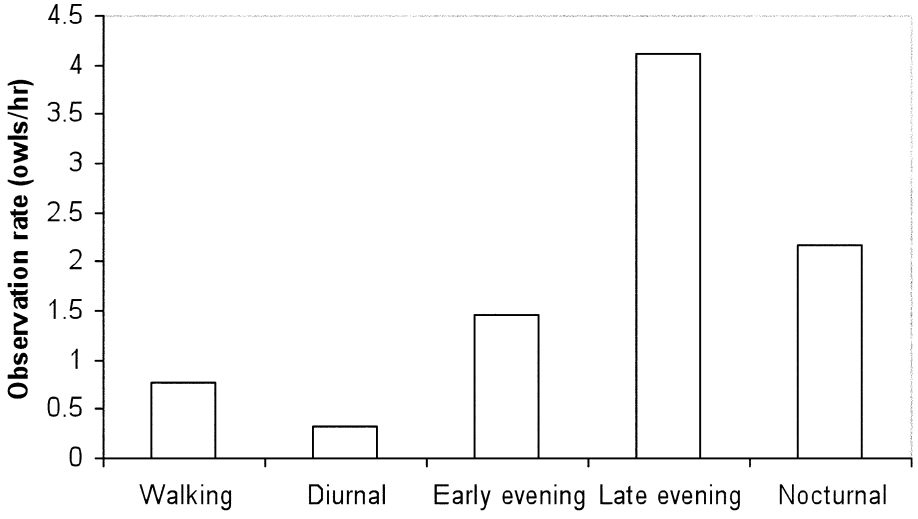

Figure 1. Mean observation rates of Short-eared Owls at Buena Vista Grassland, for all seasons from January 2000 to August 2008, by diurnal walking and different daily time periods of driving surveys.

ous Type I statistical error, we did not lower the *P* value further, as many more Type II errors (biologically meaningful patterns lacking statistical significance) would then be created than Type I errors eliminated.

Results

At Buena Vista Grassland, from 1997 through the end of August 2008, we conducted 1195.2 km and 474.1 hr of formal surveys (558.2 hr including time spent outside the car but not on the formal survey). We recorded 178 Short-eared Owl adults and 11 young of the year on the formal survey within the survey unit, with an additional 44 adults and 1 young detected during these surveys but outside the unit and/or the formal survey time period. In our driving sessions, from January 2000 through August 2008, we used 762.7 hr (663.4 hr during daylight; 99.4 hr after dark) to record 1217 Short-eared Owl contacts (961 new and 245 repeat contacts of adults, 11 young, all new), and 55 Snowy Owl contacts (34 new, 21 repeat). At Pine Island, we performed 211.1 km and 76.3 hr of walking surveys from 25 April–5 September 1993–2008, but found no owls. In scans ("driving sessions") totaling 49.05 hr (46.52 in daylight, 2.53 after dark), we found 56 new and 76 repeat Short-eared Owl contacts. We walked around a bit informally on one "scan" on 25 March 2001 and flushed 3 Short-eared Owls in the eastmost and most open area.

Short-eared Owl: daily and seasonal variation—

The long-term average pattern (Fig. 1) was peak Short-eared Owl detection in late evening drives, followed by nocturnal drives, early evening drives, daytime walking surveys, and lastly,

Table 1. Two-tailed probability values (boldfaced if significant at P<0.05) of Wilcoxon signed ranks tests of Short-eared Owl observation rates at Buena Vista Grassland, Portage County, Wisconsin, between consecutive daily periods (driving surveys only), by season.

Season	Diurnal to early evening	Early evening to late evening	Late evening to nocturnal
Spring	**0.04**	0.16	**0.04**
Summer	**0.03**	**0.03**	**0.03**
Fall	0.16	**0.03**	0.50
Winter	0.50	**0.01**	**0.04**
All seasons	**0.01**	**0.00**	0.22

daytime drives. For driving surveys in all seasons combined (Table 1), a significant increase in detection occurred between the diurnal and early evening periods and between early evening and late evening, but no significant difference between late evening and nocturnal. As all walking surveys occurred diurnally, we could not test for differences in detection between daily periods by that survey method.

The long-term average seasonal pattern (Fig. 2) was peak detection in spring (in the late evening period), followed by summer (nocturnal period), fall (nocturnal and late evening periods virtually the same), and lastly, winter (in late evening). We saw no Short-eared Owls at Buena Vista for part or all of six winters from winter 1999–2000 through winter 2008–2009 (Table 2). Late evening driving was an effective survey method year-round. Nocturnal driving was effective only in summer and fall. For the late evening

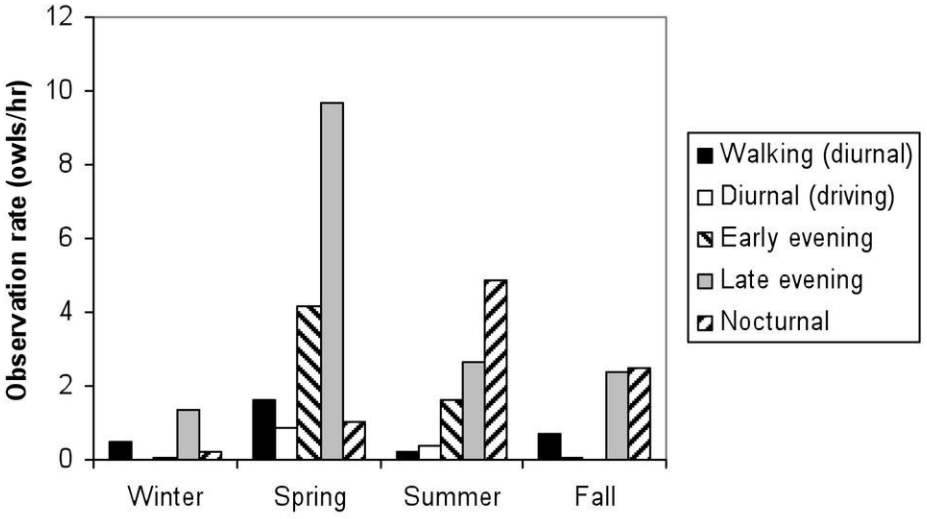

Figure 2. Mean observation rates of Short-eared Owls at Buena Vista Grassland by diurnal walking surveys and different daily time periods of driving surveys, by season from January 2000 through August 2008.

Table 2. Winter observations of Short-eared Owl (SEO) and Snowy Owl (SO) at Buena Vista Grassland: last date SEO observed in fall-early winter, first and last dates SEO not observed during winter (N=number of dates surveyed during that "not observed" period), first and last dates SO observed that winter, and first date SEO observed again the following spring. For years with no data presented, Short-eared Owl was observed on all dates in the winter and Snowy Owl was not observed at all.

Winter	Last SEO	SEO Not observed	N	SO Observed	1st SEO
99–00					
00–01	25 Dec 00	03 Jan 01–16 Mar 01	(7)	06 Dec 00–02 Mar 01	21 Mar 01
01–02					
02–03					
03–04					
04–05	08 Jan 05	29 Jan 05–20 Mar 05	(3)	29 Jan 05–29 Jan 05	16 Apr 05
05–06	07 Jan 06	04 Feb 06–04 Feb 06	(1)	11 Dec 05–14 May 06	18 Mar 06
06–07	13 Jan 07	03 Feb 07–17 Mar 07	(3)		01 Apr 07
07–08	08 Dec 07	01 Jan 08–08 Mar 08	(4)	08 Dec 07–08 Mar 08	04 Apr 08
08–09	27 Nov 08	25 Dec 08–31 Jan 09	(3)	25 Dec 08–03 Apr 09	28 Feb 09

period, detection peaked in spring, followed by summer and fall, then winter, while the nocturnal period peaked in summer, followed by fall, then spring. The early evening period followed the late evening pattern except for slightly higher rates in winter than fall. Walking surveys had their lowest detection rates in summer.

Within season (Table 1), many significant differences occurred between daily periods (testing driving surveys only; walking surveys had only one daily period). When a significant difference did not occur, this was either because both periods had very low detections (e.g., diurnal and early evening in fall and winter) or both periods had relatively high detections (early and late evening in spring; late evening and nocturnal in fall). Except in summer, early and late evening both had relatively higher detections but still were significantly different.

We found Short-eared Owl at Pine Island mostly in passage seasons: primarily in November to early December, usually undetected both earlier in fall and later in December-January (Table 3) and in spring, primarily in

Table 3. Fall observations of Short-eared Owl at Pine Island Wildlife Area, Columbia County, Wisconsin, for all survey dates for "driving" point scan sessions. Snowy Owl occurred once, on 17 December 2008.

Year	Not Observed	Observed	Not Observed
2000–2001		29 Nov, 10 Dec	23 Dec, 26 Dec
2001–2002	26 Oct	1 Dec	
2002–2003	22 Oct, 6 Nov, 16 Nov, 21 Nov		25 Dec, 1 Jan 03
2003–2004	8 Nov	13 Dec	24 Dec
2004–2005		18 Nov, 30 Nov	8 Dec, 15 Dec, 15 Jan 05
2005–2006	29 Oct	14 Nov, 1 Dec	13 Dec, 3–14 Jan 06
2006–2007	28 Oct	11 Nov	3 Dec
2007–2008	24 Oct, 8 Nov		
2008–2009		14 Oct, 3 Nov, 2 Dec, 17 Dec	31 Dec

Table 4. Spring observations of Short-eared Owl at Pine Island for all survey dates for "driving" point scan sessions.

Year	Not Observed	Observed	Not Observed
2001		20 Mar, 25 Mar	
2002	28 Feb	20 Mar, 26 Mar	
2003	13 Feb, 27 Feb, 23 Mar		
2004	12 Mar, 26 Mar	1 Apr	
2005	12 Mar, 31 Mar		
2006	12 Feb	15 Mar, 28 Mar	12 Apr
2007	13 Mar, 29 Mar		
2008	18 Mar	26 Mar, 5 Apr	
2009	1 Mar, 17 Mar, 29 Mar		

March (Table 4). We haven't searched much after this spring passage, but have conducted many walking surveys here in spring and summer, never finding an owl during these. Snowy Owl was detected once (Table 3).

Short-eared Owl rates strongly covaried within season between daily periods (Table 5). The weakest correlations were between walking surveys and nocturnal drives. When including all seasons, the late evening period strongly covaried with the other periods, with the first, second, third, and seventh highest coefficients (out of ten). This suggests that greater statistical power occurred for late evening because more owls were seen then (cf. Fig 1). Limited to the spring and summer seasons (when we found the most Short-eared Owls and when most researchers would survey them), early and late evening had the four highest

Table 5. Spearman rank correlation coefficients (r) (significant unless otherwise noted) of Short-eared Owl observation rates at Buena Vista Grassland between different daily periods (diurnal only for walking surveys) of both survey methods (walking and driving) for (1) all seasons from winter 2000 through summer 2008 and (2) limited to spring and summer. NS=not significant (two-tailed P>0.05).

	All Seasons		Spring & Summer Only	
Survey Method/Period	N	r	N	r
Walking (diurnal) vs.				
Diurnal driving	33	+0.413	18	+0.318 NS
Early evening driving	31	+0.370	17	+0.809
Late evening driving	33	+0.712	17	+0.739
Nocturnal driving	32	+0.210 NS	17	+0.129 NS
Diurnal driving vs.				
Early evening driving	33	+0.414	17	+0.524
Late evening driving	35	+0.676	17	+0.591
Nocturnal driving	34	+0.425	17	+0.589
Early evening driving vs.				
Late evening driving	33	+0.581	16	+0.901
Nocturnal driving	32	+0.390	16	+0.195 NS
Late evening driving vs.				
Nocturnal driving	34	+0.401	17	+0.358 NS

Table 6. Spearman rank correlation coefficients (r) (significant unless otherwise noted) of Short-eared Owl observation rates at Buena Vista Grassland, within the same daily period, by survey method (walking or driving), between consecutive seasons for (1) spring to summer, and (2) spring to summer and summer to fall in the same analysis. NS=not significant (two-tailed P>0.05).

	Spring to summer		Spring to summer and summer to fall	
Survey Method/Period	N	r	N	r
Walking (diurnal)	10	+0.497 NS	18	+0.463 <0.06 (NS)
Driving				
Diurnal	9	+0.373 NS	17	+0.284 NS
Early evening	8	+0.835 <0.05	15	+0.658 <0.01
Late evening	8	+0.756 <0.05	16	+0.660 <0.01
Nocturnal	8	+0.325 NS	16	+0.144 NS

Table 7. Two-tailed probability values (boldfaced if significant at P<0.05) of Wilcoxon signed ranks tests of Short-eared Owl observation rates at Buena Vista Grassland, within the same daily period, by survey method (walking or driving), between consecutive seasons.

Survey Method/Period	Winter to spring	Spring to summer	Summer to fall	Fall to winter
Walking				
Diurnal	0.16	**0.01**	0.08	0.90
Driving				
Diurnal	0.46	0.50	**0.04**	0.66
Early evening	**0.04**	**0.04**	0.06	0.32
Late evening	**0.01**	**0.02**	0.60	0.16
Nocturnal	0.16	0.12	0.40	**0.01**

correlation coefficients, while the nocturnal period correlated more weakly.

Short-eared Owl observation rates consistently covaried (Table 6), sometimes significantly, between spring and the following summer as well as in the three warm seasons (spring to following summer, summer to following fall; excluding winter as Short-eared Owl was undetected in some). Even though consecutive seasons had positive correlations in their observation rates (Table 6), some significant differences in rates occurred between consecutive seasons (Table 7). At least one significant difference occurred in each pairing of consecutive seasons; these were increases from winter to spring, decreases from spring to summer, and one decrease each from summer to fall and from fall to winter (cf. Fig. 2).

Snowy Owl: daily and seasonal variation—

By far the most Snowy Owls were recorded in winter, with the highest detection in the late evening period (Fig. 3). The diurnal and early evening periods had similar detection rates. The nocturnal period was also effective (primarily perches on posts and poles within roadside right-of-way). Detection in spring and early

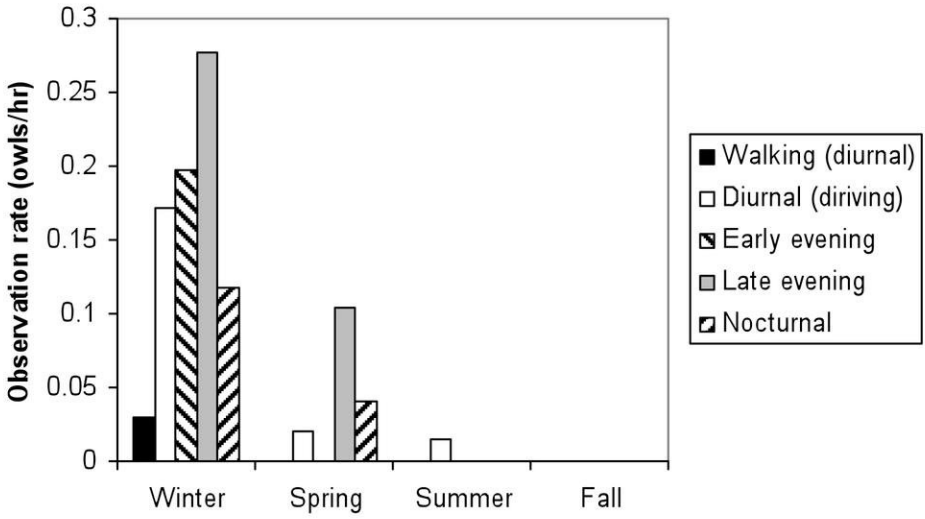

Figure 3. Mean observation rates of Snowy Owls at Buena Vista Grassland by diurnal walking surveys and different daily time periods of driving surveys, by season from January 2000 through August 2008.

summer (as defined here) occurred in only one year (2006) (Table 2). Covariance was strong between different daily periods, with diurnal walking surveys the weakest correlate (Table 8). No significant differences occurred between daily periods (Table 9).

Table 8. Spearman rank correlation coefficients (r) (significant unless otherwise noted) of Snowy Owl observation rates at Buena Vista Grassland between different daily periods (diurnal only for walking surveys) of both survey methods (walking and driving) for (1) all seasons from winter 2000 through summer 2008 and (2) limited to winter. NS=not significant (two-tailed P>0.05).

	All Seasons		Winter Only	
Survey Method/Period	N	r	N	r
Walking (diurnal) vs.				
Diurnal driving	33	+0.446	6	+0.465 NS
Early evening driving	31	–0.033 NS	5	–0.250 NS
Late evening driving	33	+0.491	6	+0.465 NS
Nocturnal driving	32	–0.046 NS	6	–0.200 NS
Diurnal driving vs.				
Early evening driving	33	+0.663	7	+0.832
Late evening driving	35	+0.922	8	+0.946
Nocturnal driving	34	+0.724	8	+0.814
Early evening driving vs.				
Late evening driving	33	+0.704	7	+0.786
Nocturnal driving	32	+1.000	7	+1.000
Late evening driving vs.				
Nocturnal driving	34	+0.776	8	+0.781

Table 9. Two-tailed probability values (none significant at $P<0.05$) of Wilcoxon signed ranks tests of Snowy Owl observation rates at Buena Vista Grassland, between consecutive daily periods (driving surveys only), for winter only.

	Diurnal to early evening	Early evening to late evening	Late evening to nocturnal
Winter	0.50	0.46	0.46

Short-eared and Snowy Owls: annual variation—

Short-eared Owl detection varied greatly among years (Fig. 4, which shows the spring and summer seasons, when most detections occurred, cf. Fig. 2). Spring and summer 2000 had very high rates, and there were relatively many detections for some survey methods and periods occurred in the warm seasons of 2006 and 2008. Diurnal walking surveys were relatively poor at detecting these fluctuations due to low observation rates, but their indices showed strong covariances with results from periods with higher observation rates (Table 5). Snowy Owl rates also varied among years (Fig. 5, showing winter only, when by far the most were found). Observation rates among the different daily periods showed strong concordance in this annual variation (Fig. 5, Table 8).

In winter, both Short-eared Owl (Fig. 6) and Snowy Owl (Fig. 5) indices showed relationships to snow indices. Both species related more consistently to snow cover than snow depth (Table 10), negatively for Short-eared Owl (although never significantly) and positively for Snowy Owl.

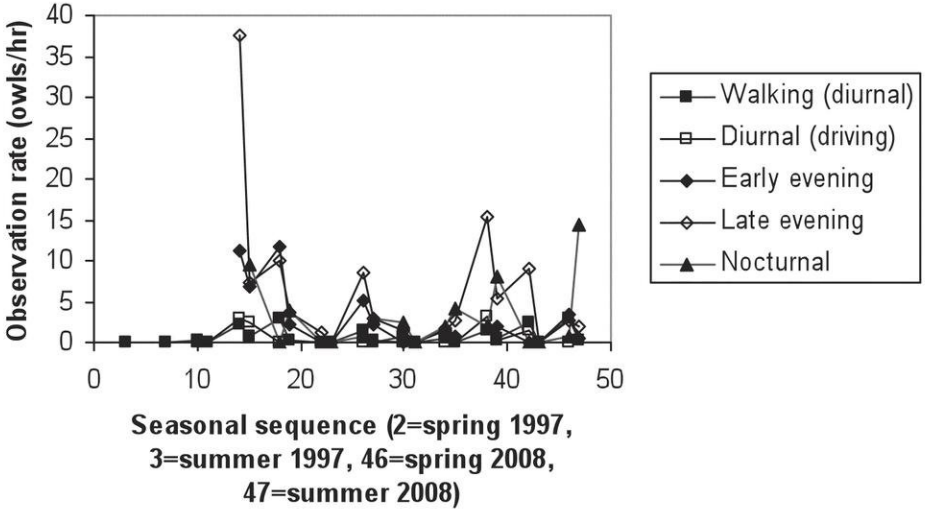

Figure 4. Short-eared Owl observation rates at Buena Vista Grassland, by daily period, for spring and summer 1997–2008. No detections occurred on walking surveys in spring 2002 (out of spring 1999 to 2008) and in summer 1998, 2002, 2004, and 2007 (out of summer 1997 to 2008).

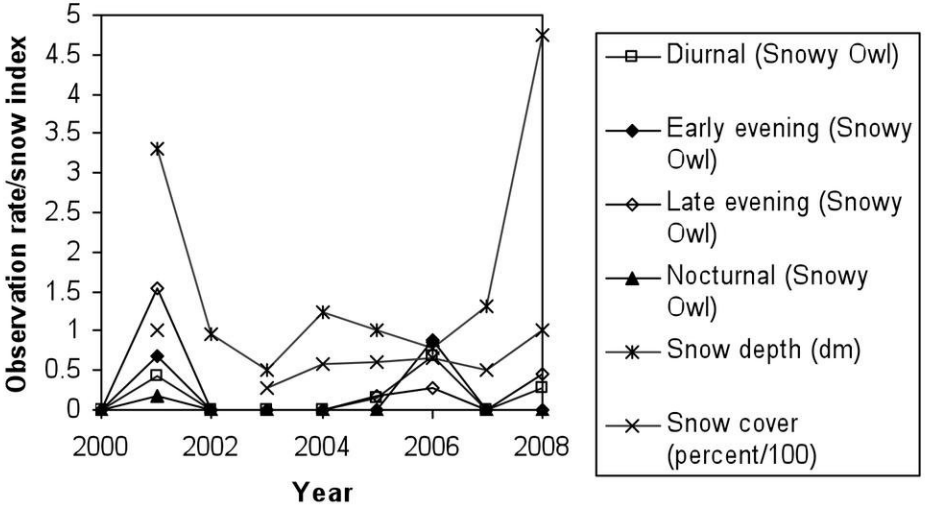

Figure 5. Snowy Owl observation rates at Buena Vista Grassland by daily period in winter, as well as mean snow depth in dm (decimeters—depth in cm/10) and snow cover in percent divided by 100 to fit on graph.

Furthermore, Short-eared and Snowy Owl indices correlated negatively with each other in winter (r=–0.420, N=9, for late evening period). This was not significant but is consistent with the following findings in Table 2. Snowy Owls were detected in five of the six winters when we did not detect Short-

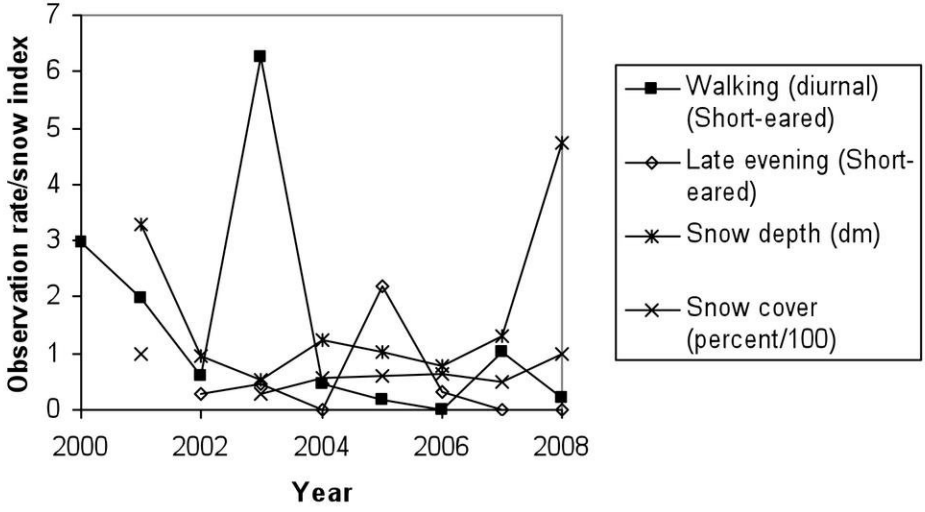

Figure 6. Short-eared Owl observation rates at Buena Vista Grassland by daily period in winter, as well as mean snow depth (decimeters—depth in cm/10) and snow cover in percent divided by 100 to fit on graph.

Table 10. Spearman rank correlation coefficients (r) of owl observation rates to snow indices at Buena Vista Grassland, between different daily periods (diurnal only for walking surveys) of both survey methods (walking and driving). N=8 winters (2001–2008), except N=7 for walking surveys (2002–2008) and for snow cover (2001, 2003–08). None were significant except as noted by * or **. * P<0.05; ** P<0.01.

	Mean Snow Depth		Mean Snow Cover	
	Short-eared	Snowy	Short-eared	Snowy
Survey Method/Period	r	r	r	r
Walking (diurnal)	–0.741	+0.612	–0.202	+0.841*
Driving				
Diurnal	–0.218	+0.216	–0.412	+0.517
Early evening	+0.247	–0.080	–0.414	+0.954**
Late evening	0.000	+0.495	–0.109	+0.517
Nocturnal	+0.178	–0.078	–0.152	+0.655

eared Owls for part or all of the winter. But in 2007, we detected neither Short-eared Owl nor Snowy Owl. We overlapped the two species in early winter in three seasons (2000, 2006, 2007) and in late winter twice (2006, 2009). We detected Snowy Owl at Pine Island once (Table 3), with Short-eared Owl also occurring on the same date in early winter 2008.

Discussion

Short-eared Owl: daily and seasonal variation—

Our driving surveys were probably more effective for finding Short-eared Owls not only because they covered more area, but also because we did not conduct walking surveys during the times of day when Short-eared Owls are more detectable (Fig. 1). Since diurnal driving surveys found far fewer owls than evening and nocturnal driving, our daytime walking surveys were similarly disadvantaged for finding Short-eared Owls due to time of day.

As a general pattern, we found more Short-eared Owls in the late evening than nocturnal period, presumably because we can see better, not necessarily because the owls are more active then (Fig. 1). Short-eared Owls are nocturnal as well as crepuscular (Clark 1975, Bosakowski 1989) and, at least in Europe, are far more visible in the evening and dusk than around dawn and early morning (Mikkola 1983).

When nights were long (fall-winter), owls in our study appeared less active in early evening compared to other times of year (Fig. 2); besides owls seen during walking surveys (usually flushed by us), nearly all owls in fall and winter were seen after sundown. This is consistent with findings by Clark (1975) and Bosakowksi (1989) that most Short-eared Owls leave their winter roosts to begin evening hunting near or after sunset. Both authors also found that Short-eared Owls begin evening hunting earlier relative to sunset as nights become shorter toward spring. This suggests that winter nights are so long that daytime hunting is rarely needed, but in spring owls have shorter nights

for hunting and greater food needs as the breeding season approaches. Short-eared Owls are much more diurnal than we observed during the April-July breeding season in more northerly European (53–68°N) and Manitoba (50–51°N) sites (Goddard 1935, Clark 1975, Mikkola 1983, Calladine et al. 2008) that have much shorter nights than our study area (44°N). This also suggests a limiting effect of short nights on preferred (nocturnal) time for hunting prey.

Clark (1975) found that Short-eared Owls were more likely to spend the winter in places that had high prey abundance in fall, and also that if conditions were favorable where owls spent their spring, they were more likely to stay to breed. Both of these effects should lead to a positive correlation in Short-eared Owl abundance between consecutive seasons, as we found (Table 6). This pattern also means spring counts of Short-eared Owl abundance have some value as an indicator of breeding season abundance within its breeding range.

Spring has higher detections than other seasons (Fig. 2), presumably with some contribution from passage, but since a similar bump did not occur in fall to correspond to opposite passage, the spring increase was also due to breeding season displays and territoriality that make Short-eared Owls more detectable. We feel many "spring" birds are likely to stay to breed, because all three Short-eared Owl nests we found here were found in May but must have been initiated between late March (2006, 2009) and late April (1997). The different daily periods within a season covaried well (Table 5), except for a method with very few detections (diurnal walking) and nocturnal driving, which had limited transect width and a different seasonal pattern of detection (cf. Fig. 2). Observation rates also covaried well between consecutive seasons (Table 6), providing more evidence that spring surveying (when owls are more detectable) is valuable for reflecting summer breeding (when less detectable by most means).

Late evening was always a relatively effective survey period (Fig. 2). The diurnal and early evening periods were poor when nights were longer than 11–12 hours (fall, winter). Early evening was relatively effective in both seasons with short nights (spring, summer). This was especially valuable in spring when rates are relatively high since Short-eared Owl presence could be efficiently established in more areas due to more daily periods being effective for surveying. Nocturnal drives were a good way to gain more records in summer (especially late summer) and fall when Short-eared Owls are present but otherwise harder to find (Fig. 2). Diurnal walking surveys (rates highest in spring, second highest in fall) were a relatively poor method but these observation rates generally moved up and down in line with average rates in the other periods in every season.

As a general pattern, Short-eared Owl indices covaried strongly among periods within season (Table 5). However, the nocturnal period correlated relatively weakly to the other periods, perhaps because it increased in summer when the others decreased and was lower in spring when all the other periods were higher (Fig. 2). Walking surveys also correlated relatively weakly with driving surveys in this analysis, presumably because of the

former's low detection rates, but had very strong correlations with early and late evening driving rates in 3/4 tests.

Deviations from the overall patterns—that late evening is better than nocturnal and spring is better than other seasons (cf. Fig. 1 to Fig. 2)—appear to correspond to breeding and/or hunting constraints. First, the nocturnal period produced more detections in summer than spring. We mostly did not identify nocturnal individuals as young of the year due to the obscure view we had, but we assume that, like Beske and Champion (1971) observed in the same area, many of these were Short-eared Owl family groups. Perhaps young of the year are more effective at hunting at night in the short turf and bare ground of roadsides. Second, walking survey rates were lowest in summer perhaps because there are eggs or young, so that the entire family hangs very low and is less inclined to flush. Third, the early evening period had slightly higher rates in winter than fall; this could be due to sampling error or to greater food stress, with owls coming out to hunt in the less preferred earlier daily period in winter.

In surveys confined to daylight hours in Scotland, Calladine et al. (2008) also found significant seasonal variation (during March-July) in which time of day resulted in the most owl contacts. During incubation (mid-April to mid-May) the last four hours of the day (evening) were best, but owls became more diurnal during chick rearing (June) and summer. During June evening remained an above-average time of day to survey, but morning was also a good time. In July Short-eared Owl detection rates became higher, and more owls were seen in morning than evening (Calladine et al. 2008). Greater diurnal activity at this more northerly Scottish site (>55° N) than at Buena Vista is consistent with other literature which seems to show more daytime activity in Short-eared Owls in times of year and locations when nights are shortest (discussed earlier in this section).

Snowy Owl: daily and seasonal variation—

Eight of ten correlations between different survey periods within a season were positive (Table 8). This appears driven by the strong contrast between "good" vs. "bad" years. However, results in one period usually covaried with results in another period (Table 8), so in that sense, time of day was not an important factor in interpreting results. While in this paper and previously (Swengel and Swengel 2002), we detected no significant effects by time of day, the highest winter and spring rates occurred in late evening (Figure 3; see also Fig. 1 in Swengel and Swengel 2002). A pattern may be developing that Snowy Owls are more crepuscular than diurnal at Buena Vista, but more years of data are needed to demonstrate this conclusively.

In extensive daytime sampling of Snowy Owls wintering in Alberta, Boxall and Lein (1989) saw approximately equal numbers of Snowy Owls at all times of day, but the owls were most **active** in early morning (0800–1000 hrs standard time) and late afternoon (1600–1800 hrs; this period in winter is equivalent to our "late evening"), with much resting in the three two-hour periods in between. We didn't survey in early morning and so, could not detect a peak then if it existed.

While our observation rates are based on the number of sightings and do not take the owls' behavior into account, their late-day peak in activity agrees with the timing of our highest Snowy Owl observation rate (late evening).

Short-eared and Snowy Owls: annual variation—

Short-eared Owls exhibit dramatic local fluctuations in abundance between consecutive years on the order of 10–100 factor differences driven largely by vole or lemming cycles (Pitelka et al. 1955, Mikkola 1983, Robbins 1991, Houston 1997, Poulin et al. 2001). Strong meadow vole (*Microtus pennsylvanicus*) cycles occur in the Buena Vista study area and are accompanied by commensurate variation in Northern Harrier nesting (Hamerstrom 1979). The sharp Short-eared Owl breeding peak that occurred at Buena Vista in 1970 (Beske and Champion 1971) was in a high vole year (Hamerstrom 1979), and in 1978 Follen (1979) studied a high Short-eared Owl nesting year 30–40 km NW of Buena Vista that coincided with a vole peak. Evrard et al. (1991) likewise found an unusual concentration of Short-eared Owl nests and vole-eating raptors in northwestern Wisconsin in a high vole year. Short-eared Owls peaked on a broad front in Wisconsin (Soulen 2000: 345) and at Buena Vista (Swengel and Swengel 2002) in 2000. Our study may have detected smaller warm season peaks in 2006 and 2008 (Fig. 4), and in 2009.

Buena Vista is slightly north of the northern edge of the Short-eared Owl's winter range as mapped by Root (1988) and Robbins (1991), so it is expectable for this owl to be uncommon here in winter. We found fewer Short-eared Owls when snow cover was higher (Table 10), and other studies have found a tendency for Short-eared Owls to be less abundant in winters with deeper snow (Clark 1975, Baker and Brooks 1981). Near Toronto the winter snow depth was eight times as high in winter 1975–76 as the year before and in that winter with deeper snow, only 1/7th as many Short-eared Owls were seen as the previous winter (Baker and Brooks 1981). Since vole abundance was similar in the two winters, greater snow cover or the presence of many Snowy Owls in the second winter may have contributed to the drop in wintering Short-eared Owls. Short-eared Owl diets exhibited a 58-factor preference for meadow voles instead of smaller deer mice (*Peromyscus*) relative to numbers caught in traps, but the owls ate five times as many deer mice as usual when snow was deep (Colvin and Spaulding 1983). This may be because voles generally stay beneath snow and are more difficult to catch during snow cover than *Peromyscus* and other small mammals (Hendrickson and Swan 1938, Sonerud 1986).

Snow may influence Short-eared Owl wintering as a threshold effect (Table 10)—the higher the percentage of land area covered by snow, the less area for effective vole hunting—rather than as a linear effect (the deeper the snow, the greater the negative impact). Conversely, snow cover may be a more effective positive index (than snow depth) correlating with increased Snowy Owl wintering here. A preference for snow was perhaps exhibited in March 2009 when we saw two Snowy Owls resting on snow patches barely larger around than

themselves within one dirt field with <1% snow cover! Thiel (1985) felt there was a threshold effect near 10–15 cm snow depth above which Rough-legged Hawks (*Buteo lagopus*) just north of our study area became less abundant in winter due to vole unavailability. Sonerud (1986) established that snow cover is an important determinant of both migration strategies and northward wintering of birds of prey with different hunting techniques, with Short-eared Owls and open hunting foragers being more limited by prey availability in snowy periods than forest hunters. Short-eared Owls seem averse to roosting in snow or deep snow, usually switching to tree roosts under these circumstances (Clark 1975, Bosakowski 1986), and this may also affect how far north they winter and in what years. Kinziger (1997) demonstrated that temperature is also important in Short-eared Owl winter roosting; owls chose greater cover (trees and shrubs) in Wisconsin and throughout their range when temperatures were colder.

Snowy Owl winter populations vary widely, with an average of four years between peaks (Parmelee 1992). As in our study, Sindelar (1966) found Snowy Owl winter numbers to vary widely in Wisconsin, with a six-fold difference among years in total Snowy Owl reports over a five-year period. It is possible that winters with more snow mean more Snowy Owls for our study area. Kerlinger and Lein (1988) found that wintering Snowy Owls are much more abundant at 45–53° N than further south, and even increase greatly with increasing latitude within that northerly area of higher abundance. This suggests an affinity by Snowy Owls for colder areas with longer periods of snow cover than occur further south.

In this study, Snowy Owl presence tended to occur in winters when we were not detecting Short-eared Owls (Table 2). Baker and Brooks (1981) also found an opposite pattern in Snowy Owl vs. Short-eared Owl abundance in two winters: 7 total sightings of Snowy Owls and 56 Short-eared Owls in 1974–75, and 66 Snowy Owl sightings vs. 8 Short-eared Owls the next winter, which was much snowier. The ratio of Short-eareds to Snowies went from 8: 1 one winter to 1: 8 the next. Most Snowy Owls we saw at Buena Vista were in or perched by tilled fields or heavily grazed pastures, while the vast majority of Short-eared Owls were on public land with higher grass cover. The two species have a different winter habitat niche and diet but occasionally exhibit antagonism to one another (Lein and Boxall 1979) and Snowy Owls sometimes prey on Short-eared Owls (Levin et al. 1977, Holt and Leasure 1993).

Comparison to other owl and bird surveys—

Surveys not specifically designed to detect Short-eared Owls usually find very low numbers of them. Standard nocturnal owl surveys in the Midwest are extremely valuable for monitoring other owls but find few Short-eareds, e.g. 0.0017/km in Wisconsin and Minnesota in 2007–08 (0.0025 in Minnesota, 0.0005 in Wisconsin) (Grosshuesch 2007, 2008) and we have never heard a Short-eared Owl in 22 years of nocturnal owl surveys in southern Wisconsin (Swengel, Duncan, and Swengel 2008): our surveys are primarily in forest, but we've seen Short-eared Owls in two areas along these routes

Table 11. Observation rates of Short-eared Owls on daytime summer surveys in North America. Surveys occurred during the Short-eared Owl breeding season and were between 1 May and 31 August except where noted. Surveys were conducted from sunrise to 4.5 hours after sunrise, except for Kantrud 1981, Poulin et al. 2001, Swengel and Swengel 2002, and this study. SEO=Short-eared Owl.

	Walking Surveys		Road Surveys		
Location	SEO/km	SEO/hr	SEO/km	SEO/hr	Reference
Pennsylvania	0.00	0.00	0.00	0.00	Yahner & Rohrbaugh 1996
Indiana	0.003	0.006	0.004	0.025	DeVault et al. 2002
Illinois	0.00	0.00			Herkert 1994
Iowa	0.00	0.00			Patterson & Best 1996
Wisconsin	0.00	0.00			Sample 1989
Wisconsin					
Buena Vista	0.07	0.17	—	0.33	This study
>25 Other sites	0.00	0.00			Swengel & Swengel 2002
Illinois	0.00	0.00			Swengel & Swengel 2002
Minnesota	0.00	0.00			Swengel & Swengel 2002
Iowa	0.00	0.00			Swengel & Swengel 2002
Missouri	0.005	0.01			Swengel & Swengel 2002
Dakotas	0.022[1]	0.05			Swengel & Swengel 2002
North Dakota	0.00	0.00			Kantrud 1981
Saskatchewan	0.00	0.00			Sutter & Brigham 1998
Saskatchewan	—	—	0.006[2]	0.194	Poulin et al. 2001
Alberta	0.00	0.00	0.015	—	Owens & Myres 1973

[1] Excludes nestlings; rate including nestlings is 0.07/km and 0.15/hr.
[2] Surveys began 14–21 April and ended 20 August or earlier; rates were 0.00005 to 0.00006/km in 1996 and 1998 vs. 0.019/km in 1997, and 0.002/hr in 1996 and 1998 vs. 0.59/hr in 1997.

on other dates. Likewise, generalized surveys of Canadian owls also find very few Short-eared Owls. The Ontario Nocturnal Owl Survey recorded one Short-eared Owl in 6460 stops covering 10000 km during 2005 and 2008 (Crewe and Badzinski 2006, Allair and Kempmann 2009). Manitoba's Nocturnal Owl Survey had slightly higher but still very low Short-eared Owl rates: fewer than 0.005/km in 15 out of 17 years 1991–2007, with the highest two rates being 0.01/km and 0.005/km in 2001 and 2002, respectively (Duncan 2008).

Standard bird surveys that begin at dawn generate even fewer Short-eared Owl sightings: zero on 715 Breeding Bird Surveys of 175 different Wisconsin State Natural Areas during 1990–2007 (Wisconsin Department of Natural Resources 2009). Furthermore, although Short-eared Owls are grassland birds, most breeding season grassland bird studies find low numbers. Eleven of 15 representative midwestern and prairie province grassland bird surveys recorded 0 Short-eared Owls on walking surveys, and only two (including this study) recorded >0.01 Short-eared Owls/hr (Table 11). Although this shows that Buena Vista has an extraordinarily high density of summering Short-eared Owls, our driving surveys were far more efficient at finding owls than walking surveys (Fig. 2, Table 11). Three of the grassland bird studies that included driving surveys in addition to walking surveys recorded higher Short-eared Owl rates by driving, and the 4th study found 0 Short-eared Owls using either method (Table 11). The four driving surveys

for which hourly rates can be calculated include the first, second, and fourth most efficient surveys out of 19 walking + driving surveys with hourly rates (Table 11). The fifth driving survey (Owens and Myres 1973) had a high detection rate/km but we could not estimate a rate per hour (Table 11). Table 11 includes only daytime summer surveys (e.g. our rate of 0.33 Short-eared Owls/hr on diurnal drives); our combined early evening, late evening, and nocturnal driving in summer found 10 times as many (>3/hr; cf. Fig. 2 in summer). A grassland bird study that, like ours, included dusk and night searches, found Short-eared Owls in both those time periods but not at the standard early morning bird survey period (Walk et al. 2000).

Short-eared Owl monitoring suggestions from other studies—

During the warm season, evening is always one of the time periods suggested for surveys by Calladine et al. (2008). They recommend point counts (scanning back and forth from one spot) and walking transects during these times of day for monitoring Short-eared Owls: the last four hours before dark during "incubation"; either 4–8 hours after dawn or the last four hours before dark during June; either the first four hours after dawn or the last 4 hours before dark in July. Significant survey effort for least 5 years is needed to account for variability in Short-eared Owl numbers among years. They suggest including both key (better than average) Short-eared Owl areas and representative areas (selected for more even geographical coverage and not necessarily better than average for owls). For greater data collection, Calladine et al. (2008) provides a long list of upland birds to be recorded when seen during these surveys.

Holt (1986) recommends four Short-eared Owl survey techniques. Besides 1) nest searches, which are very inefficient for finding owls (Holt and Leasure 1993), these target time periods when owls can be seen or heard doing breeding activities: 2) courtship flights and territorial skirmishes in early spring; 3) listening for loud "psssssip" food begging calls of the young at night after they fledge; 4) observe birds in or near communal roosts made up of multiple Short-eared Owl families in late summer or early fall. The last suggestion is consistent with our and Beske and Champion's (1971) sightings of large numbers of owls, perhaps one or more families, on roads near one another after dark.

Recommendations for efficient monitoring methods—

Strategic timing and location of surveys are essential for finding enough Short-eared Owls for meaningful monitoring. It is important to use resources efficiently by counting other birds or animals while conducting these surveys (e.g. Hochachka et al. 2000, Poulin et al. 2001, Calladine et al. 2008). Even relatively good locations for other grassland birds usually produce extremely low Short-eared detection rates during the breeding season. For this reason we recommend, even more strongly so than do Calladine et al. (2008), that efforts to characterize regional abundance or population trends of Short-eared Owls focus most surveying on sites with known above-average Short-eared Owl

detection rates. A small number of important Short-eared Owl sites is likely to include a disproportionately high percentage of the regional population, so surveying them using effective techniques should more rapidly lead to meaningful population monitoring.

Efficiency in monitoring is heightened by the need to survey Short-eared Owls for >8 years (more than two average vole cycles) to characterize their average and approximate range of local abundance. Since the dedication of observers to maintain a project that long may depend on it producing interesting results, including other target species in surveys is key (another reason to emphasize good sites, not randomly chosen ones). In our case, years 10, 12, and 13 (2006, 2008, and 2009) of our thirteen-year study at Buena Vista rank among the best five Short-eared Owl breeding seasons. It was only because we were studying numerous other grassland birds and butterflies that we were willing to maintain the study long enough to begin gathering statistically meaningful data on Short-eared Owls.

For efficient monitoring of Short-eared Owl abundance and to use fewer resources, our observations (Fig. 2) endorse these:

1. Late evening drives were always good. It is better to cover more ground than belabor a given area, so as to increase the chance of finding this season's good place(s). These drives are indispensable for obtaining efficient Short-eared Owl indices in spring and summer.
2. Continuing these drives after dark in summer and fall (only) adds a chance to greatly increase records.
3. In spring when rates are higher than in other seasons, it is effective to begin driving sessions in early evening. This will add records and areal extent of Short-eared Owls and also increases the chance to see more territorial and breeding behavior.
4. Walking surveys are valuable if other grassland species can be effectively surveyed at the same time or if one is nest searching (based on results from driving methods to pinpoint likely areas), but are relatively ineffective if only for the purpose of finding Short-eared Owls.
5. Final outcomes of nesting can be efficiently indexed by counting fledglings on dirt/gravel roads bisecting grasslands after dark. Even with much effort, only a fraction of Short-eared Owl nests are ever found (Holt and Leasure 1993). Unintrusive observations during the nesting season are preferable, since Short-eared Owls have a high tendency to abandon nest scrapes and nests or succumb to nest predation if they are found by researchers during the egg laying through the early nestling stages (Goddard 1935, Clark 1975, Evrard et al. 1991, Holt 1992, Holt and Leasure 1993). Because of this high susceptibility of Short-eared Owl nests to fail due to human disturbance, we recommend immediately leaving any nest upon finding it and staying away from its vicinity afterward.

Monitoring Snowy Owls in winter is more effective when covering large amounts of ground by using driving surveys (as opposed to walking—see Fig. 3). Our dataset is not large enough to form firm conclusions about daily activity patterns of Snowy Owls here. In both winter and early spring, however, our highest Snowy Owl rates were on late evening drives (Fig. 3), so it is relatively efficient to search for them at the same time as Short-eared Owls.

Conservation conclusion—

Buena Vista is a marvelous example of serendipitous conservation: efforts for Greater Prairie-Chicken (*Tympanuchus cupido*) also benefiting Short-eared Owl. In the context of prairie-chicken conservation, there are issues in progress or yet to be addressed (Toepfer 2007). But in the context of the entire landscape, even limited to grassland (untilled) vegetation both conserved and unconserved, Buena Vista is outstanding for Short-eared and Snowy Owls as well as Greater Prairie-Chickens.

Acknowledgements

We are very grateful to funders of our research in Wisconsin prairies, grasslands, savannas, and barrens: Lois Almon Small Grants Research Program (1990, 1991, 1993), Wisconsin Department of Natural Resources, U.S. Fish and Wildlife Service, Jed Bromfield and Henya Rachmiel, Mrs. Sandra McKibben, and most of all, Drs. William and Elsa Boyce. We thank David Johnson (American Bird Conservancy and World Owl Initiative) for enthusiastic encouragement to analyze our data and for helpful guidance in the literature.

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Scott R. Swengel and Ann B. Swengel enjoy doing fieldwork together on birds and butterflies. They are especially interested in owls, grassland birds, and butterflies of prairies, barrens, and sphagnum bogs. Their numerous publications focus on survey techniques, population monitoring results, and conservation management.

50 Years Ago in *The Passenger Pigeon*

Charles Kemper continued to report on birds colliding with the tall TV tower outside Eau Claire in the lead article in this issue. It is interesting to read Charlie's discussion and speculation about bird navigation and theories why birds and bats collide with tall towers. A fascinating photo taken by Charlie shows volunteers sorting through hundreds of bird casualties, while a large, metal garbage can sits in the background.

The second article by Mueller and Berger is about the Swainson's Hawk in Wisconsin and includes a photo of a **very** young Dan Berger holding a young Swainson's. Readers of the *Pigeon* recognize Helmut and Dan as the two principal figures who still run the Cedar Grove Ornithological Station. As they note in the article, this species has been (and is still) a rare but regular visitor to the state since the earliest days of ornithological investigation.

And speaking of old timers, Daryl Tessen, as a junior at Lawrence College, reported a Sycamore (Yellow-throated) Warbler from the east side of Appleton on May 4 in the "*By the Wayside*" column.

Excerpt from Vol. 21 (4), 1959 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.

Pine Siskin *by David Kuecherer.*

Possible Winter Homing and Site Fidelity of an Oregon Junco in Madison, Wisconsin

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The annual return of specific individual migratory birds to the vicinity of the sites where they bred or were born has been recognized for a long time. The first such recorded observation in North America was by John J. Audubon, who tied silver threads around the legs of nestling Pewee Flycatchers (that is, Eastern Phoebe, *Sayornis phoebe*) near Philadelphia in 1803 and observed the return of two of them to their birthplace the following year (Audubon, 1834; also cited in Wood, 1945). There is also evidence that diverse North American species migrate to the same wintering areas after breeding is completed ("winter homing") (Keiser et al. 2005). We think we may have observed in our backyard an example of eight successive winter homings to the same local neighborhood ("site fidelity") of a male Oregon Junco (hereafter, just OJ), which is a relatively rare visitor in this part of the United States. The Dark-eyed Junco species (*Junco hyemalis*), to which the OJ belongs, comprises a highly varied group of subspecies that are widespread in North America. The predominant subspecies in Wisconsin is the Slate-colored Junco, *J. h. hyemalis*, depicted on p. 501 of Sibley (2000) and in Fig. 1, herein. The *J. h. oregonus* group of eight subspecies is distributed from southeastern Alaska to the mountains of northern Baja California and eastward to southwestern Saskatchewan and western Nevada (Nolan et al. 2002). The plumages of the *oregonus* group clearly differ from those of the *hyemalis* group, but distinct differences also exist between members of the *oregonus* group. The plumage of the bird discussed herein (Fig. 2) most closely resembles that of the "pale adult male" Oregon Junco depicted on p. 500 of (Sibley 2000), which would place it in the subspecies *J. h. oregonus*. The breeding range of this subspecies extends from northern British Columbia to northern California and east to the northern tip of Idaho and extreme northwestern Montana. This would place the nearest breeding area of our OJ in the last-named location about 1,700 miles west of Madison. At the latitude of Madison, the normal wintering range extends to southwestern North

Dakota and central Nebraska. But, OJs of various subspecies have been observed as uncommon vagrants at many locations farther east extending to Atlantic coastal states.

With rare exceptions, it probably would not have been feasible to make observations of winter homing of individual Slate-colored Juncos that ordinarily migrate through winter in our neighborhood in Madison without banding birds that wintered here and observing the return of banded birds in subsequent winters. But, the OJ (Fig. 2) is so distinctly different from local Juncos (Fig. 1) that we knew we had a rare winter visitor when we first observed an unmistakable male OJ in the snow of our backdoor patio on 3 January 2000. Since we are experienced birders who study the birds we feed and see out back, we were certain we had never seen a bird like it among the many hundreds of juncos that had passed through our backyard during the preceding 41 years of our occupancy. The striking plumage difference combined with the rarity of OJs in our area marked our OJ as a specific individual junco among the numerous Slate-colored Juncos we observed.

It was with this background in mind that we were astonished to again observe a male OJ on our back patio on 21 October 2000. Only one bird of this kind at a time was observed (almost daily) that winter until it was last seen on 20 March 2001. During the succeeding seven years, a pale adult male OJ was first observed during 5–24 October and last seen between 12 March to 1 April. Our reasons for thinking the same bird was returning to our neighborhood are:

(a) We are experienced birders. While we observed thousands of juncos in our backyard and elsewhere in the course of our years in Madison starting with 1959, we had never seen an OJ; we could not have mistaken it if we had. In view of that rarity in our experience, we wondered if the same bird returned each winter or why, after 41 years, might *different* OJs have started visiting us during each of eight successive winters.

(b) It was always an OJ of the pale adult male variety that visited us each winter. If different OJs were visiting us, why wasn't one of them ever a dark male or a female?

(c) If the visits were random visits by different vagrant birds that had similar appearances, why did we not observe an OJ in our neighborhood or anywhere in the east during the 41 years preceding our first observation and, then, observe **just one bird of the same appearance** during the succeeding eight winters?

(d) Why were sightings of OJs in our vicinity as spatially restricted as they appeared to be if different birds were being seen during a given winter? We alerted several observant birder neighbors who fed birds to be on the lookout for male OJs. There were several sightings over the years of a bird that fit the description of our OJ at two homes about 50 and 100 meters distant, but never from a home about 250 meters distant.

Reasons (a–d) suggest to us that the same pale male OJ not only returned to the same area (Madison) eight winters in a row, but even to a neighborhood comprising about eight square blocks ("site fidelity"). But, this reasoning does not **prove** that the same bird visited us every year. We did not avail ourselves of offers by a licensed

bander to band the bird because we wished to avoid spooking it; the return of the bird each autumn had become an event to which we looked forward. It is really cool to hope for a rare OJ to appear outside your back window within a narrow time span and, then, to actually have it appear!

After we began to suspect that what appeared to be same OJ was returning to our neighborhood in successive winters, we became curious to know how common or uncommon that behavior was among juncos. Various publications, summarized in Nolan et al. (2002), describe evidence of impressive winter homing and site fidelity in the species. In one study, about 20 percent of the Slate-colored Juncos banded at a site in Indiana in a given winter ("winter 1") were recovered at the same site the following winter ("winter 2"). But, about 50 percent of the banded birds that were recovered in winter 2 were recovered again at the same site in winter 3, and of those two-winter returnees, about 50 percent were recovered at the site in winter 4. Since it had been determined that the annual survival rate of juncos banded in the study was about 47 percent, the annual re-recovery data after winter 2 meant that almost all of the banded birds that survived a given winter returned to the original banding site the following winter. Similar data were obtained with OJs at a banding station in Oregon. Retrospectively, the observations made with banded juncos and summarized above suggest that being banded in Madison might not have deterred our OJ from returning.

The observations summarized above suggest we may have observed eight annual winter-long visits of a male OJ who was a real survivor! Indeed, life span data obtained with banded birds and summarized in Nolan et al. (2002, *see* "Demography and Populations") indicate that junco survivals of 6–7 years are not uncommon. Many birds that had survived that long were still returning to the site at which they had first been banded. In addition, one adult OJ that had been banded in California was found dead, apparently of old age, at the banding site 8 and 1/3 years later (Terres 1980, p. 334).

Our observations have been evocative in various ways. If we are right in thinking that the same bird visited us every winter, the kind of memory that brought it here probably led it to the same breeding area every year. Evidence showing substantial fidelity to birth and breeding sites in juncos is also summarized in (Nolan et al. 2002). We, somehow, feel connected to the breeding site of our OJ, even though we don't know its location; wish we did!

How can the unusually far eastward fall migration of vagrant OJs in eastern North America be explained, especially when repeated, as by our OJ? It seems unlikely that our OJ mistakenly wandered or was blown so far east repeatedly. Perhaps, OJs are polymorphic (genetically diverse) with regard to migration direction and some of them are genetically programmed to migrate eastward in autumn. Experimental evidence for genetic determination of migration direction has been documented, especially with the European Blackcap. For instance, when individuals that normally would migrate southeast were crossbred with others that abnormally would migrate southwest, the migratory orientation

Figure 1. An adult Slate-colored Junco (*J. hyemalis hyemalis*) photographed in our backyard in Madison, WI on 25 February 2008.

Figure 2. A pale adult male Oregon Junco (*J. h. oregonus*) photographed in the same tree as in Figure 1, above, on 29 February 2008. *The photographs were made with the maximum zoom of the 10x optical zoom lens of an Olympus SP-510UZ digital camera and lack the resolution of true digiscope photographs.*

of their progeny was intermediate. These experiments and the evolutionary advantages of genetic polymorphism affecting direction and some other aspects of migration were reviewed in Berthold and Helbig (1992).

Our winter-homing OJ started out as a delightful annual surprise that evolved into wonderment about how the DNA sequence of a gene can determine a bird's compass heading for migration. When he didn't return for the winter of 2008–2009 we decided it was time to prepare this report.

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Bob DeMars is an 81 year old Professor (Emeritus) of Medical Genetics and Genetics at The University of Wisconsin-Madison (he started there in 1959). The excellent habitat and assortment of feeders that his wife and lifetime birding buddy, Ann, created out back have resulted in 50 years of great birdwatching from the back window (60 species including White-winged Crossbills last winter!). Now that Bob has figured out how to use a digital camera to complement his observations, he is making definite plans to continue watching for another 50 years.

Little Gull painted *by Seth Cutright.*

Lessons From the Seasons: Winter 2008–2009

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Last winter's lesson described the nuances of a major redpoll invasion. At the time I was writing the lesson, I had no premonition of and gave little thought to the possibility of another "finch" invasion of such magnitude anytime soon. Lo and behold, in the early stages of the winter of 2008–2009 an unprecedented invasion of White-winged Crossbills built in the northern parts of the state.

As the reports of phenomenal numbers accumulated, multifaceted questions regarding the invasion were conveyed via the birdnet. How many birds are in the state? How does this invasion compare with other years? What causes these types of nomadic movements? What kinds of life history traits permit this behavior? Plus many more! This lesson will delve into the questions and shed some light on the unusual life history of the White-winged Crossbill.

Starting in Newfoundland and proceeding west, White-winged Crossbill distribution continues in the boreal forest all the way around the earth to the western shores of Norway. Two subspecies are recognized: White-winged Crossbill, *Loxia leucoptera leucoptera,* resides in North American (Fig. 1 and 2) and the Two-barred Crossbill, *Loxia leucoptera fasciata,* occurs throughout boreal Eurasia. Another crossbill with two white wing patches is found on the island of Hispaniola and has been recently given full species status.

Both boreal subspecies feed predominately on seeds of spruce, tamarack (larch), hemlock, and sometimes fir (Fig. 3). Occasionally, they consume seed from pines, red cedar, alder, and birch. Mid-summer diet is supplemented with insects, such as spruce budworm, other soft-bodied caterpillars, spiders, etc. Finally other foods are sometimes consumed during their irruptions to the south, such as sunflowers, ragweed, chickweed, and grasses. They are inefficient at gathering these southern foods and are usually outcompeted by other finches.

White-winged Crossbills, being so specialized in their favored seeds, tend to be always on the move. Their nesting coincides with high food availability much more so than other

Figure 1. Male White-winged Crossbill in the city of Ashland on 15 January 2009 (Ashland County) by Ryan Brady.

species whose timing cues in on celestial and rain events. They move great distances and in large flocks to efficiently utilize specialized foods.

Three movements per year with three different nesting cycles per year are typical, although in some years only one, to as many as four nesting cycles, can occur. Timing of the movements is primarily a combination of the juxtaposition of many conifer species and the size of the cone crop. Movements can cover huge distances with swings all the way from Quebec to Alaska and back in the realm of possibility. Movements in mountainous areas are usually less abrupt, because many more conifer species spread their cone crops more evenly throughout the year.

A typical year in Canada would proceed as such: the flock search would

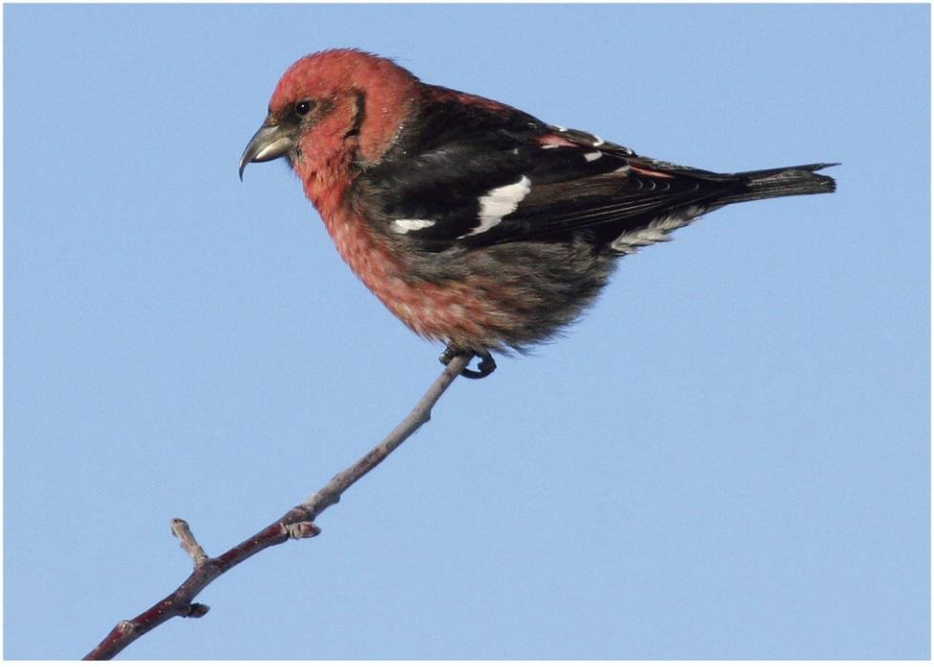

Figure 2. Male White-winged Crossbill in the city of Ashland (Ashland County) on 15 January 2009 by Ryan Brady.

Figure 3. Group of White-winged Crossbills feeding in spruce tree on 16 January 2009 in Ashland (Ashland County), Wisconsin, by Ryan Brady.

look for abundant tamarack and white spruce cone development in May, and once found they would begin nesting. During this first nesting some seeds are eaten, but much of the food for the young is insects. Usually enough animal food is available to supplement the conifer seeds. Tamarack and white spruce seeds drop most often in October to early November and another nesting commences to take advantages of this abundant food source. Sometimes a movement is needed to find an abundance of these conifer seeds, but many times they will remain in the area they found in May.

Black spruce is most reliable and often times the only food source for the winter. This conifer does not shed its seeds until late winter. When the black spruce seed crop is good to abundant, White-winged Crossbills will have a third nesting with the peak time being mid-January through February.

The winter black spruce food source seems to be the most critical factor in movement dynamics. The cause of irruptions is most closely tied to failure of black spruce to produce an adequate number of seeds. Even when tamarack and white spruce seed production is high, poor black spruce crops will spur invasions. Hot and dry conditions over a huge swath of boreal Canada lead to a massive failure of black spruce seed production, which provides the catalyst for crossbills to search nomadically for food.

The major hypothesis being promoted for the 2008–09 invasion is the White-winged Crossbill had good to above-average years for producing young during the May-June and September-October nesting cycles. Then with high numbers of birds and a massive black spruce crop failure, a movement south was the only option for the nomads. Commencing in late October and especially into November, White-winged Crossbill numbers in northern Wisconsin exploded. As December approached, number were sky-high statewide. Then right on cue and to be expected, nesting was reported in late January and into February. And again on cue, numbers plummeted in March and they were virtually gone in April, supposedly with flocks looking for early signs of good tamarack crops in their primary range.

Typically in 2 to 4 years another invasion will occur. The magnitude of the next invasion will depend on the factors listed above, assuming normal weather patterns. Given recovery time for the populations to build, big numbers could be seen in the future. However, if hot and dry conditions become the norm in boreal regions, regular massive black spruce seed failure would greatly inhibit any population recovery. Under such a scenario, a heated planet may prevent massive White-winged Crossbill numbers from occurring again.

The Winter Season: 2008–2009

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WEATHER

Again as last year this 'good old fashioned' winter season began with a snow storm that left 6–8″ of snow in southern Wisconsin, but only traces in the northeastern part of the state. Similar to the previous winter of 2007–2008, southern Wisconsin received much more snow than most of the far northeast. Temperatures in the northeast remained around 30 degrees F. through 3 December, then fell much lower with lows near zero for the next few days. Another substantial snowstorm hit the northeast on 8 December with about 3″ accumulation, while southern Wisconsin received 10-12″. Temperatures in the northeast remained in single digits for lows, with highs in the low 20s until 11 December. On 12 December northeast Wisconsin recorded temperatures above freezing with rain and sleet followed by below zero lows and highs in single digits the following 5 days. Another 10″ of snow fell in southern Wisconsin on 19 December while northeast Wisconsin received only 2″. In northeast Wisconsin January and early February remained very cold with little additional snow. From 16–22 February only trace amounts of snow fell, while temperatures began the week with lows below zero, and highs up to 32°F. The month ended with highs in the teens and low 20s with single digit lows.

Karen Etter-Hale commented about the weather in Dane and Jefferson Counties. "This winter was really tough, with record, or near record, snow in December, and very cold temperatures. National Weather Service statistics for Madison showed December at 6 degrees below average for the month and January at 6.7 degrees below. February was close to normal." She noted that there was 35″ of snow during 11 days and .69″ of rain during 4 days with very cold temperatures in December. In January there was very little snow (8″ in 3 snowfalls) but very cold temperatures. The beginning of February was warm with a high of 51 degrees with no snow the first 2 weeks. Then more normal temperatures followed through the end of the month with 7″ of snow falling on February 21 and 1.25″ of rain recorded on February 26th

Daryl Tessen commented about the weather in the Fox River Valley area, stating, "The weather was challeng-

ing." He commented that December was a combination of snow and cold all month. He further noted, "Here in Appleton we had 4+ feet! Temperatures were way below normal. January saw much less snow, but more intense cold. February had one brief warm break in mid month, and then it was back to cold with snow near the end. As February ended we have had 6+ feet of snow for the season. UGH!" This season record amounts of snow also were recorded in the Green Bay area.

Notable Rarities

Rarities reported this winter season included Black-bellied Whistling-Duck in Brown County that lingered BOP-4 December from its first sighting in November. Harlequin Duck was reported in 2 counties; Pierce and Sheboygan, while 2 Barrow's Goldeneye were reported in Sheboygan County. The elusive Spruce Grouse was reported in Forest and Vilas Counties. Both Eared and Western Grebe were reported in Dane and Kenosha Counties respectively. King Rail was reported on the Poynette CBC in Columbia County. Several reports of Franklin's Gull were recorded in Brown and Dodge Counties, while Laughing Gull was reported in Manitowoc County. For the 3rd consecutive year a Slaty-backed Gull was reported in Wisconsin. The seldom seen Black-legged Kittiwake was also reported in Sheboygan County. A Northern Hawk Owl was photographed rather far south in the state in Marathon County, while a Boreal Owl was seen and photographed in Bayfield County. A Rufous Hummingbird first seen in November, remained until 10 December in Dane County. Although not as numerous as reported in the 2007–2008 winter season, Black-backed Woodpecker was reported in Forest and Vilas Counties. An Eastern Phoebe was reported during the Great Backyard Bird Count in February in Green County. Carolina Wren continued a strong showing in 8 counties, while Townsend's Solitaire was reported in Sauk and Vilas Counties. Varied Thrush was reported in Dunn, Oconto, Oneida (Figs 1 and 2), and Rock Counties. A single Northern Mockingbird was reported on the Pardeeville CBC in Columbia County, while a Pine Warbler was reported on the Green Bay CBC in Brown County. A single Chipping Sparrow was reported on the Madison CBC in Dane County. Several Harris's Sparrows were reported in Sheboygan and Winnebago Counties. Rose-breasted Grosbeak was reported on the Clyde and Kenosha CBCs in Iowa and Kenosha Counties. Besides the Slaty-backed Gull perhaps the rarest species reported this winter season was the Gray-crowned Rosy-Finch that frequented a feeder during December and January near Platteville in Grant County. With another invasion of Common Redpoll throughout the state this year, the associated rarer species, Hoary Redpoll, was reported in a record 18 counties.

Analysis

A total of 168 species was reported in the 2008–2009 winter season. This total compares to 169 species recorded last year. Similar to the winter season of 2007–2008, deep snow depths were reported in southern Wis-

Figures 1 and 2. Varied Thrush that visited the home of Brian Karnosky in Rhinelander, Wisconsin, from 21 January into February 2009. These photos were taken by Guy David.

consin and below normal temperatures recorded all across the state. These weather conditions probably contributed to fewer migratory birds seen and recorded that otherwise may have lingered in the state. However, these same conditions may have accounted for several sightings of unusual gull species.

Perhaps the most noticeable trend during this winter season was the continuation of species that have recently been added to the winter season. For example, despite the harsh weather, this season's report included Surf, White-winged, and Black Scoter, Barrow's Goldeneye, Red-throated Loon, American White Pelican, Lesser Black-backed Gull, record numbers of Eurasian Collared-Dove, Carolina Wren, and Northern Mockingbird. Most of these species have first appeared in the state within the last 15 years.

Winter finch reports showed exceptionally high numbers of White-

winged Crossbill, Common and Hoary Redpoll, and Pine Siskin, with more normal numbers of Purple Finch this season. Unlike last year with Pine Grosbeak recorded in 23 counties, they were relatively hard to find this season with reports in only 8 counties. Evening Grosbeak continued to be reported in low numbers, appearing in only 10 counties.

STATISTICS

The total of 298 people contributed observational reports during the Winter Season of 2008–2009. This compared to the total of 265 from the 2007–2008 winter season. With participants' continued widespread use of ebird, it is encouraging that reports included all of the 72 counties in the state, although these 16 counties exhibited limited coverage; Barron, Buffalo, Clark, Dunn, Iron, Lincoln, Pepin, Pierce, Price, Rusk, Sawyer, Shawano, Washburn, Waupaca, Waushara, and Wood. Species reports included CBC, ebird, single and multiple county reports, and long and short form documentation reports. Most maximum numbers were taken from the thousands of ebird reports. Most, but not all, of the reports cited after CBC data included only later reports. These abbreviations are included in the reports; BOP=beginning of period, EOP=end of period, TTP=throughout the period, m. obs=many observers, and CBCs=Christmas Bird Counts. A special thank you to Bob Domagalski for providing timely CBC data.

REPORTS
(1 December 2008–28 February 2009)

Black-bellied Whistling-Duck—One individual BOP-4 December Brown County (Baumanns). This bird was originally reported in November. Unfortunately during late winter the Baumanns reported finding the skeleton of this individual under a melting snowdrift. [This bird was documented in Fall 2008 Records Committee Report.]

Greater White-fronted Goose—One individual on Madison CBC. This individual continued TTP in McFarland in Dane County. Three were reported there 12 February (Brooks, Dennis, Paulios, Stark, Thiessen). Other reports were 24 on 12 February Kenosha County (Dixon), 13 February Waukesha County (Szymczak), 12 on 14 February Dodge County (Bahls), 23 on 16 February Racine County (Prestby), 4 on 17 February Walworth County (Fitzgerald), 6 on 20 February Rock County (Yoerger).

Snow Goose—Reported during the count week on Racine CBC. Reported in 4 counties; 2 December Dane County (Thiessen), 2 on 25 December Sauk County (Graham), 10 on 28 December Dane County (Anderson), 2 on 11 and 14 February Dane County (Thiessen, Schwarz), 10 and 25 February Walworth County (Fitzgerald), 2 on 20 February Rock County (Yoerger), 15 on 24 February Dane County (Pfeiffer).

Cackling Goose—Total of 55 individuals on 2 CBCs, Cedar Grove 1 and Madison 54. Reported in 7 counties; 2 on 5 December and 5 on 7 December Dane County (Paulios), 17 December Eau Claire County (Forsgren), 18 December Dane County (Martin), 2 January Dane County (Evanson), 3 on 16, 2 on 17, and 5 on 18 February Racine County (Fitzgerald), 13 on 10 February Waukesha County (Gustafson), 2 on 11 and 19 February Dane County (Fitzgerald, Prestby, Thiessen), 2 on 17 February Walworth County (Fitzgerald), 3 on 20 February Rock County (Yoerger).

Canada Goose—Reported in 44 counties with maximum number of 2500 on 7 December Dane County (Paulios). Reported in these northern counties; Ashland, Burnett, Douglas, Florence, Iron, and Marinette.

Mute Swan—Total of 33 individuals found on 8 CBCs; Ephraim 10, Lake Geneva 1, Madison 15, Milwaukee 1, Racine 1, Riveredge 3, Washington Island 1, Wisconsin Rapids 1, with a

count week bird on the Kenosha CBC. Reported from 10 counties with maximum number of 103 in Door County (Siebel).

Trumpeter Swan—Total of 460 individuals found on 11 CBCs. Maximum number of 407 reported from Hudson CBC (St. Croix County) compared to last year's maximum total at the same location of 256. Reported from 13 counties with maximum number of 70 on 23 February St. Croix County (Mueller).

Tundra Swan—Total of 16 individuals on 3 CBCs; Madison 10, Milwaukee 5, Poynette 1, and count week birds on La Crosse and Washington Island CBCs. Reported from 12 counties with maximum number of 10,000–12,000 on 1 December La Crosse County (Lesher).

Wood Duck—Total of 11 individuals on 6 CBCs; Green Bay 1, Milwaukee 2, Oshkosh 1, Palmyra 2, Pardeeville 4, Wautoma 1, and a count week bird on Bridgeport CBC. Reported from 6 counties; 4 December Winnebago County (Bruce), 4 December-EOP Crawford County (Dahlberg, Kirschbaum, Stark, West, Zeman), 15, 16, and 28 December Walworth County (Howe), 20 December Milwaukee County (Bontley, Prestby), 6 January La Crosse County (Jackson), 22 February-EOP Waukesha County (Szymczak), 28 February Racine County (Frank).

Gadwall—Reported from 10 counties with maximum number of 50 on 6 and 7 December Dane County (Evanson, Stutz).

American Wigeon—One individual reported on Oconomowoc CBC. Reported from 5 counties; BOP-4 December Waukesha County (Gustafson), 5 December Brown County (Swelstad), 2 on 6 December, 12 December, and 10 February Milwaukee County (Gustafson, Hunter, Wilson), 8 December Sheboygan County (Fitzsimmons), 2 on 3 January Ozaukee County (J. Baughman, Prestby, Tessen).

American Black Duck—Reported in 33 counties with maximum number of 300 in Brown County 4 January (Rickaby).

Mallard—Found in 50 counties with maximum number of 200 on 20 December Dane County (Stutz) and 21 January Marinette Co (Campbell).

Blue-winged Teal—One individual reported 31 January Dane County (Jakoubek).

Northern Shoveler—Total of 256 found on 6 CBCs; Lake Geneva 1, Madison 220, Oconomowoc 31, Oshkosh 1, Waukesha 1, and Woodland Dunes NE 2. Reported TTP Dane County (m. obs.) with maximum number of 210 on 12 December (Evanson), BOP-4 January Manitowoc County (Sontag), and 2 on 28 December Milwaukee County (Wilson).

Northern Pintail—Total of 3 individuals on 3 CBCs; Appleton, La Crosse, and Riveredge. Reported in 8 counties; 5 December Dane County (Paulios), 6 December Milwaukee County (Hunter, Wilson), 2 on 1 January Racine County (Jarvis), 3 January La Crosse County (Thometz), 4 January Milwaukee County (Wilson), 4 January Winnebago County (Paulios), 17 January and 22 February Walworth County (Howe), 27 January Manitowoc County (Schaufenbuel), 10 February Milwaukee County (Gustafson), 16 and 21 February Racine County (Prestby, Wenzel). Maximum number of 11 reported 4 January Milwaukee County (Wilson).

Green-winged Teal—Total of 8 individuals on 7 CBCs; Kettle Moraine 2, Montello 1, Pardeeville 1, Poynette 1, Shiocton 1, Trempealeau 1, and Woodland Dunes NE 1. Reported in 6 counties; BOP-4 January Manitowoc County (Sontag), 5 on 2 December Dane County (Kavanaghs), 28 December Columbia County (Yoerger), 1 January Ozaukee County (Tessen), 10 February Milwaukee County (Gustafson), 6 on 13 February Lafayette County (Romano), and 25 February Dane County (Prestby).

Canvasback—Total of 8 individuals on 3 CBCs; Kenosha 2, La Crosse 1, and Riveredge 5. Reported in 10 counties with maximum number of 50 on 4 December Burrows Park Dane County (Schwarz).

Redhead—Total of 77 individuals from 8 CBCs; Cedar Grove 3, Kenosha 3, La Crosse 1, Lake Geneva 6, Milwaukee 38, Racine 11, Riveredge 8, and Sheboygan 7. Reported in 14 counties with maximum number of 50 on 22 February Lower Mud Lake Dane County (Martin).

Ring-necked Duck—Total of 11 individuals from 4 CBCs; Lake Geneva 3, Madison 3, Oconomowoc 4, Poynette 1, and count week birds on Racine and Washington Island CBCs. Reported from 9 counties; 2 December–19 February Dane County (Evanson, Kavanaghs, Prestby, Romano, Schwarz, Tessen), 13 December and 17 February Racine County (Fare, Howe, Pugh, Wenzel), 28 December Columbia County (Yoerger), 10 December–13 February Milwaukee County (Jackson, Wilson), 29 December and 3, 4 January Sheboygan County

(Brassers, Frank, Mueller, Shillinglaw), 10 January Ozaukee County (Heikkinen), 11 February La Crosse County (Lesher), 5 on 20 February Dane County (Prestby), and 24 February Sauk County (Holschbach). Maximum number of 8 reported 4 December Waukesha County (Szymczak).

Greater Scaup—Total of 8429 individuals on 9 CBCs along Lake Michigan plus the Appleton CBC. Reported in 11 counties all from the Lake Michigan shoreline with the exception of sightings in Pierce County. Maximum number of 10,000 reported 3 January Milwaukee County (Pugh, Wenzel).

Lesser Scaup—Total of 370 individuals from 9 CBCs; Appleton 2, Fond du Lac 3, Madison 2, Milwaukee 336, Oshkosh 20, Racine 1, Riveredge 1, Solon Springs 3, and Woodland Dunes NE 2. Reported in 13 counties with maximum number of 100 Sheboygan County (J. Holschbach, Scheiman).

Harlequin Duck—One individual found on Sheboygan CBC. Other reports included a female TTP Sheboygan County and a male reported 17 December–23 January Pierce County (m. obs).

Surf Scoter—A female reported 6 December Kenosha County (Hughes), 4 on 9 December Sheboygan County (Fitzsimmons), 7 on 3 February Door County (Gustafson).

White-winged Scoter—Total of 7 individuals from 2 CBCs; Madison 1, Milwaukee 6, and a count week bird on Sheboygan CBC. Reported in 4 counties along Lake Michigan and Dane County; 11 December Ozaukee County (Tessen), 13 December Manitowoc County (Sontag), 20–31 December Dane County (Anderson, Bucci, Paulios, Yoerger), 7, 22 December and 3 January Sheboygan County (Cutright, J. Baughman, T. Wood), 18 January Ozaukee County (Schaefer), and 3 January and 24, 25 February Milwaukee County (J. Baughman, Gustafson, Tessen, Wilson, T. Wood).

Black Scoter—Reported in 4 counties; BOP-5 December Sheboygan County (Brassers), 2 December Dane County (Prestby), 11 December Racine County (Fare), and 28 February Milwaukee County (T. Wood).

Long-tailed Duck—Total of 108 individuals reported on 6 CBCs; Appleton 2, Cedar Grove 16, Milwaukee 16, Oshkosh 1, Sheboygan 70, Sturgeon Bay 3, and count week birds reported on Kenosha and Washington Island CBCs. Reported in 7 counties; BOP-13 December Manitowoc County (Sontag), BOP-14 February Sheboygan County (Brassers, Cutright, Frank, Huf, Prestby, Tessen), 5 December Kenosha County (Krerowicz), 11 December–5 February Ozaukee County (Frank, Prestby, Tessen, Uttech), 10 December- 5 February Milwaukee County (Bontly, Dixon, Gustafson, Jackson, Mooney, Prestby, Wilson), 13 December Winnebago County (Tessen), and 5 on 20 February Racine County (Fitzgerald). Maximum number of 125 reported 31 January Sheboygan County (Prestby).

Bufflehead—Reported in 12 counties with maximum number of 150 on 6 December Milwaukee County (Hunter).

Common Goldeneye—Reported in 35 counties with maximum number of 1100 on 13 January Sheboygan County (Schaufenbuel) and 6 February Milwaukee County (Mueller).

Barrow's Goldeneye—One individual reported on Sheboygan CBC. Presumably this same individual was seen 7 December–27 January (Brassers, Bontley, Fissel, Fitzsimmons, Mooney, Murkowski, Reichhoff, Shillinglaw, Tessen, Thiessen, T. Wood). Two individuals were found 22, 23, 27, and 31 January Sheboygan County . See "By the Wayside."

Hooded Merganser—Reported in 18 counties with maximum number of 14 on 2 December Olin Park Dane County (Kavanaghs).

Common Merganser—Reported in 31 counties with maximum number of 900 on 8 December Dane County (Schwarz).

Red-breasted Merganser—Total of 1203 individuals found on 11 CBCs with maximum number of 739 on Milwaukee CBC. Reported from 11 counties with maximum number of 2000 on 5 February Milwaukee County (Mueller).

Ruddy Duck—Total of 9 individuals found on 5 CBCs; Appleton 1, Milwaukee 2, Oshkosh 2, Racine 2, Riveredge 2, and a count week bird on Kenosha CBC. Reported in 8 counties; BOP-6 December Waukesha County (Gustafson), 2–14 December Dane County (Evanson, Kavanaghs, Prestby, Schwarz), 2 on 6 December Milwaukee County (Hunter), BOP-11 December and 1–22 January Ozaukee County (Cutright, Frank, Gustafson, Jackson, Tessen), 11 December and 12–14 February Racine County (Fare, Goodman, Howe, Pugh, Wenzel), 13 December Winnebago County (Tessen), and 14 February Manitowoc County (Boyle, Mueller,

Vargo). Maximum number of 6 reported on 14 February Rock County (Yoerger).

Gray Partridge—Two individuals found on Kenosha CBC. Other reports from 5 counties; 5 on 30 December and 2 on 31 December Kewaunee County (Schilke, Prestby), 5 on 3 January Kewaunee County (Baumanns), 6 on 10 January in Manitowoc County (J. Holschbach, Sontag), 9 on 11 January Brown County (T. Wood), 7 on 21 January, 18 on 22 January, and 7 on 24 January Grant County (Kirschbaum, Fitzgerald, Prestby, Kavanaghs), 12 on 25 January Brown County (Schaufenbuel), and 28 January Kenosha County (Collinx). Maximum number of 21 reported on 7 January Kewaunee County (Schilke).

Northern Bobwhite—Total of 9 individuals reported on 2 CBCs; Baraboo 3, New Franken 6, and a count week bird on Pardeeville CBC. Reported from 3 counties; 9 individuals TTP in Taylor County (Risch), 2 on 9 December Outagamie County (Riedinger), and 31 January at Bong Recreation Area Kenosha County (Pugh, Wenzel).

Ring-necked Pheasant—Reported in 35 counties with maximum number of 37 on 31 December at Goose Pond Columbia County (Hunter).

Ruffed Grouse—Reported in 25 counties with maximum number of 21 on 3 January on Florence County CBC.

Spruce Grouse—Just prior to this winter season an impressive 30 to 40 individuals were reported in Vilas County the last week of November (Taylor). Reported in 2 counties; 31 December, 2–3 on 11 January, and 1 on 18 January Vilas County (Cameron, Moretti, Prestby, Schwarz, Stich, Yoerger), and 12 January Forest County (Tessen).

Sharp-tailed Grouse—TTP Douglas County (LaValleys), 23 January Burnett County (Maercklein).

Greater Prairie-Chicken—Total of 26 individuals reported on Arpin CBC (Wood County). All later reports from Buena Vista Grasslands Portage County; 7 December through 1 February (Betchkal, David, Jackson, Keyel, Lindsays, Matheson, Moretti, Oksiuta, Prestby, Schaufenbuel, Seegert, Stich, Tessen, Yoerger) with maximum number of 45 on 25 December (Janz).

Wild Turkey—Reported in 64 counties with maximum number of 370 on 3 January on Florence County CBC. Not reported from these counties; Ashland, Chippewa, Clark, Douglas, Kenosha, Price, Rusk, and Sawyer.

Red-throated Loon—Reported in 3 counties; 3 December Sheboygan County (Baumanns), 2 on 4 December Racine County (Nelson), and 11 December Ozaukee County (Tessen).

Common Loon—Three individuals reported on Ephraim CBC, plus a count week bird on Kenosha CBC. Other reports 14 December Dane County, and 6 February Winnebago County (Nofsinger, Uslabar).

Pied-billed Grebe—Total of 5 individuals found on 3 CBCs; Kenosha 1, Lake Geneva 3, Pardeeville 1, and a count week bird on Cooksville CBC. Other reports both from Dane County 1 January, 20 February (Ready, Prestby).

Horned Grebe—One individual reported on Milwaukee CBC. Other reports; 2 on 2 December Dane County (Schwarz), and 20 December, 28 February Milwaukee County (Prestby, T. Wood).

Eared Grebe—One individual reported BOP Dane County (Bucci, Prestby, Stutz).

Western Grebe—One individual reported 4 December Kenosha County (Nelson).

American White Pelican—Total of 5 individuals reported on 2 CBCs, Appleton 1 and Green Bay 4. Other reports all from Brown County; 12 on 2 December, 2 on 6 December, 3 on 11 December (Kavanaghs, Swelstad, Tessen), 2 on 1 January, 30 January (Tessen, Swelstad), and 3 February (Kavanaghs).

Double-crested Cormorant—Total of 30 individuals reported on 5 CBCs, Appleton 5, Cedar Grove 15, Fond du lac 4, Green Bay 4, and Sauk City 2. Reported from 3 counties; 2 on 11 December Brown County (Tessen), 4 on 26 December Fond du lac County (Knuth), 2 on 1 January Brown County (Tessen), 4 January Fond du lac and Milwaukee Counties (Fissel, Wilson), and 3 February Brown County (Kavanaghs).

Great Blue Heron—Total of 21 individuals reported on 12 CBCs, with count week birds on 4 CBCs. Reports from 11 counties; 2 December-EOP Arena Boat Landing Iowa County (Fissel, Holschbach, Kavanaghs, Roethe, Swiggum, Tessen, West), 2 December Washington County (Schaefer), 6–14 December Rock County (Yoerger), 13 December–4 January Racine

County (Howe), 20 December Green County (Yoerger), 3 on 28 December Columbia County (Yoerger), 28 December Dane County (Stutz), 28 December and 22 February Walworth County (Graham, Howe), 11, 13, and 20 January Waukesha County (Gustafson , Szymczak), 19 January Columbia County (Dischler), 21 January Racine County (Gustafson), 22 January Grant County (Huebschman), and 25 January Adams County (Carlson).

Turkey Vulture—Total of 11 individuals reported on Palmyra CBC and a count week bird on Baraboo CBC. Other reports from 3 counties; 5 December Crawford County (Kirschbaum), 30 December Walworth County (Rohde); 10 and 26 February Dane County (Martin, Thiessen).

Bald Eagle—Reported in 66 counties. Maximum number of 200 reported in Outagamie County on Appleton CBC. Not reported in these counties; Fond du lac, Iron, Price, Rusk, Shawano, and Washington.

Northern Harrier—Reported in 19 counties with the northern most report 21 December at Pershing Wildlife Area Taylor County (Risch, Scott). All other reports from southern half of the state. BOP-20 December Manitowoc County (J. Holschbach), BOP-17 February Waukesha County (Gustafson), 6 December Rock County (Yoerger), 6, 7 December Dane County (Evanson, Stutz), 16 December Jefferson County (Kollath), 22 December Racine County (Jarvis), 29 December Columbia County (Martin), 4 January Winnebago County (Paulios), 22 January Richland County (West), 3 on 23 January Sheboygan County (Goodman), 26 January–7 February Crawford County (Sandstrom), 7 February Winnebago County (Uslabar), 8 February Bong Recreation Area Kenosha County (Wilson), 11–14 February Ozaukee County (Gulbrand, Kuecherer, Petherick), 12 February Iowa County (A. Holschbach), 15 February Juneau County (Fissel), 2 on 15 February Portage County (Stutz), 2 on 21, 22, 25, and 28 February Buena Vista Grasslands Portage County (Betchkal, Jackson, Solin, Schaufenbuel, Van Lanen), 22 February Milwaukee County (Wilson), and 25 February Fond du lac County (Liss).

Sharp-shinned Hawk—Reported in 33 counties with northernmost reports TTP and 21 December at Pershing Wildlife Area Taylor County (Risch, Scott), 21 December and 3 February Marathon County (Francken), 22 December Langlade County (Kavanaghs), 24 December Bayfield County (Brady), 1 January St Croix County (Maercklein), 2 January Florence and Marinette Counties (Kavanaghs), and 28 January Ashland County (Brady).

Cooper's Hawk—Reported in 35 counties with northernmost reports TTP Taylor County (Risch), 1 January St. Croix County (Beran, Maercklein), 1 January and 7 February Eau Claire County (Forsgren), 2 January Eau Claire County (Howe), 17 January Marinette County (Campbell), 20 January Oconto County (Schilke), 14 February Door County (Squier), and 28 February Marathon County (Belter).

Northern Goshawk—Total of 12 individuals found on 10 CBCs with 3 count week birds on 3 CBCs. Reported from 13 counties; BOP Taylor County (Risch), TTP in Douglas County (LaValleys) and Florence County (Cutright, Kavanaghs), 7 December Barron County (Pertile), 13 December and 10 January Bayfield County (Brady), 17 December–15 February Eau Claire County (Forsgren), 3 January Kewaunee County (Mueller), 18 January Iron County (Brandt), 19 January Marinette County (Kavanaghs), 31 January Ashland County (Brady) and Grant County (Marquardt), 13 February Forest County (Baumanns), and 22 February Sawyer County (Pertile).

Red-shouldered Hawk—Total of 12 individuals found on 10 CBCs plus a count week bird. Reported in 16 counties; 3 December–7 February Iowa County (Holschbach), 20 December and 4 January Marinette County (Campbell, Kavanaghs), 20 December Ozaukee County (Frank), 28 December Chippewa County (Lindsay), 28 December Columbia County (Yoerger), 28 December Milwaukee County (Wilson), 28, 29 December, and 1 January Dane County (Bucci, Holschbach, Paulios, Shiffman, Thiessen), 31 December Rock County (Paulios, Yoerger), 1, 23 January Sheboygan County (Clark, Cutright), 7, 12, 20, and 27 January Polk County (Maercklein), 8, 28 January Manitowoc County (Sontag), 11, 24 January–14 February Waukesha County (Szymczak), 19, 31 January Grant County (Stark), 21 January Iowa County (Roethe), 8 February Washington County (Frank), 15 February Ozaukee County (Kuecherer), 18 February Marquette County (Shillinglaw), and 26 February La Crosse County (Tyser).

Red-tailed Hawk—Reported in 54 counties with maximum number of 20 on 11 January Dane County (Prestby, Schwarz, Yoerger).

Rough-legged Hawk—Reported in 50 counties with maximum number of 35 on 21 February at Buena Vista Grasslands Portage County (Solin).

Golden Eagle—Total of 24 individuals reported on 10 CBCs with maximum number of 10 on Nelson CBC (Buffalo County). Reported in 19 counties, up dramatically from only 7 counties reporting in 2008. Seventy individuals were reported on the Golden Eagle Survey for the Bluffs and Coulee Region of the Upper Mississippi River Watershed on 17 January. This survey encompassed 26 routes which included 16 in Wisconsin. Total of 10 individuals were seen in Buffalo County that day (Cameron).

American Kestrel—Reported in 39 counties with maximum number of 8 on 14 February Ozaukee County (Gulbrand).

Merlin—Total of 10 individuals found on 11 CBCs. Reported in 13 counties; TTP Douglas County (LaValleys), 7 December Dodge County (Rohde), 10, 15 December Dane County (Bucci, Jackson, Paulios), 31 December Green Lake County (Roti Roti), 12 January Menominee County (Tessen), 17 January Marinette County (Campbell), 21, 27 January Grant County (Dahlberg, Olig, Stark, Zeman), 23 January Oconto County (Rickaby), 24 January Chippewa County (Cameron), 31 January Buffalo County (Rueckheim), 5, 10, and 20 February Milwaukee County (Mooney), 7 February La Crosse County (Wheeler), 13 February Marinette County (Kavanaghs), and 14 February Brown County (Rickaby).

Peregrine Falcon—Total of 6 individuals found on 4 CBCs; Appleton 1, Cedar Grove 1, Green Bay 3, Racine 1, and a count week bird on Kenosha CBC. Reported in 12 counties with maximum number of 3 reported on Green Bay CBC.

King Rail—One individual reported on Poynette CBC.

Virginia Rail—Total of 7 individuals reported on 3 CBCs; Madison 2, Palmyra 2, and Poynette 3.

American Coot—Reported in 10 counties with maximum number of 800 on 2 December Dane County (Schwarz).

Sandhill Crane—Total of 3 individuals on 3 CBCs; Fort Atkinson, Pardeeville, and Spencer. Reported from 11 counties with maximum number of 390 on 10 December Columbia County (Dischler). There were no reports during January with the earliest spring date 14 February at Lulu Lake Walworth County (Howe).

Killdeer—Total of 4 individuals reported on 2 CBCs; Bridgeport 2, Platteville 2, with a count week individual on Racine CBC. Reported in 4 counties: BOP-7 December Sheboygan County (Brassers, Murkowski), 11 December Racine County (Fare), 13 December Polk County (Maercklein); 19 and 24 January at Arena Boat Landing Iowa County (Prestby, West, Yoerger).

Wilson's Snipe—Reported in 5 counties; 2 December Washington County (Schaefer), 4, 13, and 17 December Green County (Evanson, Yoerger), 26 December and 22, 28 February Waukesha County (Szymczak), 3 on 28 December Columbia County (Yoerger), 28 December Walworth County (Graham, Howe), and 31 January Columbia County (Schwalbes).

Black-legged Kittiwake—Reported as count week bird on 3 January on Sheboygan CBC (Frank). See "By the Wayside."

Laughing Gull—One individual reported 25 February Manitowoc County (Sontag).

Franklin's Gull—Reported in 2 counties; 26 December Brown County (Motquin), 28 December Dodge County (Fissel).

Ring-billed Gull—Reported in 23 counties with maximum number of 300 on 2 December Dane County (Schwarz).

Herring Gull—Reported in 25 counties with maximum number of 3000 on 14 December Milwaukee County (Frank).

Thayer's Gull—Total of 4 individuals reported on 4 CBCs; Green Bay, Milwaukee, Riveredge, Sheboygan, and a count week bird on Appleton CBC. Reported in 10 counties with maximum number of 5 on 6 December Douglas County (Svingen).

Iceland Gull—Total of 3 individuals reported on 3 CBCs; Milwaukee, Riveredge, Sheboygan. Reported in 8 counties; 2 on 2, 12 December Douglas County (Bruhnke, Svingen), 5 December Dane County, 17–31 December Pierce County (Backus, Belter, Jackson, Kieser, Persico), 1 January and 5 February, Sheboygan County (Cutright, Tessen), 10 January, 5–10, 28 February Milwaukee County (Gustafson, Jackson, Prestby, Wilson, T. Wood), 16 and 17 February Manitowoc County, (Schaufenbuel, Sontag), 19–23 February Jefferson County (Prestby, Thiessen, Yoerger), 22 February Racine County (Wilson), and 2 EOP Jefferson County (Stutz).

Lesser Black-backed Gull—One individual reported on Milwaukee CBC and a count week bird on Sheboygan CBC. Reported in 9 counties; 4 and 5 December Dane County (Thiessen), 6 December Kenosha County (McFall), 22 December Pierce County (Backus, Belter), 3 January Sheboygan County (Tessen), 13 January Kewaunee County (Schaufenbuel), 16 January, 7, 28 February Milwaukee County (Mooney, Prestby, T. Wood), 1 January, 15, 16, 22, and 4 individuals on 20 February Racine County (Fitzgerald, Jarvis, Prestby, Wilson), 8 February Kenosha County (Dixon), 17 February Manitowoc County (Schaufenbuel), and 22 February Jefferson County (Yoerger).

Slaty-backed Gull—For the 3rd consecutive year this species was reported in the state and documentation accepted by the records committee. An individual was reported 15 February Sheboygan County (Frank). See "By the Wayside."

Glaucous Gull—Total of 19 individuals reported on 6 CBCs: Bayfield 2, Kewaunee 2, Milwaukee 4, Oshkosh 1, Racine 2, Sheboygan 8. Reported in 13 counties with maximum number of 17 on 13 December Douglas County (Svingen).

Great Black-backed Gull—Total number of 17 individuals reported on 6 CBCs; Bayfield 1, Cedar Grove 1, Kewaunee 3, Milwaukee 2, Sheboygan 6, Woodland Dunes SE 4. Reported in 13 counties with maximum number of 15 on 14 February Manitowoc County (Boyle, Mueller, Vargo).

Rock Pigeon—Reported in 60 counties with maximum number of 203 on 14 December Racine County (Collinx).

Eurasian Collared-Dove—Total of 5 individuals reported on 2 CBCs; Bridgeport 2, Hales Corners 3. Reported in 4 counties; 13 December Green County (Evanson), 21 January and 22, 24 February Crawford County (Fissel, Kirschbaum, Otto), 13, 24 January, 22, 24, and 29 February Milwaukee County (Frank, Goodman, Gustafson, Wilson), 28 December, 4, 22, 31 January 5, 13, and 27 February Grant County (Dahlberg, Jackson, Romano, West). Maximum number of 25 on 23 January Grant County (Stark, Zeman) was the highest total reported in the 9 years that this species has been recorded in the state.

Mourning Dove—Reported in 62 counties with maximum number of 275 on 3 January Florence County CBC.

Eastern Screech-Owl—Reported in 22 counties with maximum number of 8 on 25 January Grant County (Dahlberg, Stark, Zeman). Recorded in these northern counties; Brown, Door, Florence, and Polk.

Great Horned Owl—Reported in 32 counties with maximum number of 6 on 3 January Rock County (Yoerger).

Snowy Owl—Reported in 19 counties, which is almost double the number of counties reporting in 2007–2008. Maximum number of 4 reported on 22 January along Six Mile Rd in Ozaukee County (Uttech). Besides the counties bordering the 2 Great Lakes that typically report Snowy Owls, birds were recorded in these inland counties; Dane, Fond du Lac, Jackson, Marathon, Outagamie, Portage, Shawano, Taylor, Walworth, and Waukesha.

Northern Hawk Owl—One individual reported 1 January at Mead Wildlife Area Marathon County (Swartz). See "By the Wayside."

Barred Owl—Reported in 23 counties with maximum number of 4 on 31 January Crawford County (Stark).

Long-eared Owl—Total of 5 individuals reported on 5 CBCs; Baraboo, Fond du Lac, Milwaukee, Montello, and Waterloo. Reported in 4 counties; 3 December Milwaukee County, 20 December and 1 January Ozaukee County (Cutright, Frank, Schwartz), 12, 19 January and 22 February Dane County (Fenske, Prestby, Schwarz), and 14 February Kenosha County (Dixon).

Short-eared Owl—Total of 4 individuals reported on 3 CBCs; Bridgeport 1, New Franken 1, and Stockbridge 2. Reported in 5 counties; 4 December Portage County (Keyel), 5, 16 December Jefferson County (Kollath), 7 December Waukesha County (Howe), 25 January Ozaukee County (Cutright), and 16 February Manitowoc County (Murkowski).

Boreal Owl—One individual photographed at Washburn residence 18 January Bayfield County (Brown).

Northern Saw-whet Owl—Total of 12 individuals reported on 8 CBCs; Baraboo 3 Cooksville 1, Madison 1, Montello 2, Palmyra 2, Rhinelander 1, Stevens Point 1, and Waukesha 1. Reported in 10 counties; Dane, Iowa, Jackson, Milwaukee, Ozaukee, Rock, Sauk, Sawyer, Taylor, and Waukesha (Stutz, Holschbach,

Prestby, Yoerger, Otto, Cutright, Schaller, Schwartz, Heinrich, Howe, T. Wood).

Rufous Hummingbird—One individual continued from fall season 14 November until last seen 10 December near Lower Mud Lake Dane County (Paulios). [Accepted in Fall Records Committee Report.]

Belted Kingfisher—Reported in 21 counties with maximum number of 3 on 1 January St. Croix County (Beran).

Red-headed Woodpecker—Reported in 20 counties with maximum number of 10 on 3 January on Birchwood CBC Sawyer County (Pertile). Reports from these northern counties; Florence, Oneida, and Sawyer.

Red-bellied Woodpecker—Reported in 56 counties with maximum number of 33 on 3 January on Friendship CBC Adams County (Grouch). Reported in these northern counties; Burnett, Florence, Marinette, Oneida, Polk, Sawyer, and Washburn,.

Yellow-bellied Sapsucker—Reported in 11 counties all in the southern third of the state with the exception of Winnebago County (Harriman).

Downy Woodpecker—Reported in 67 counties. Not reported in Dunn, Pepin, Price, Rusk, and Washburn Counties.

Hairy Woodpecker—Reported in 67 counties. Not reported in Clark, Dunn, Price, Rusk, and Shawano Counties.

Black-backed Woodpecker—Total of 5 individuals on 2 CBCs; Clam Lake 4, Herbster 1. Reported in 2 counties; 30 December, 10, 12, 19 January and 13, 16, and 26 February Forest County (Baumanns, Kavanaghs, Prestby, Richmond, Tessen), 30 December and 22 January Vilas County (J. Baughman, Prestby).

Northern Flicker—Reported in 31 counties with maximum number of 4 on 12 December Waushara County (Paulios). Reported in these northern counties; Eau Claire, Polk, St. Croix, and Taylor.

Pileated Woodpecker—Reported in 48 counties with maximum number of 13 on 3 January on Florence County CBC.

Eastern Phoebe—One individual reported 15 February Green County (Olk).

Northern Shrike—Reported in 51 counties with maximum number of 5 on 12 December Jackson County (Paulios, Prestby).

Gray Jay—Total of 25 individuals reported on 6 CBCs; Armstrong Creek 2, Cable 4, Clam Lake 8, Florence 1, Rhinelander 5, and Summit Lake 5. Reported in 6 counties; 4 December, 10, 21 January and 13, 16 February Forest County (Baumanns, Kavanaghs, Moretti, Prestby, Schwarz, Stich, Tessen, Yoerger), 19, 20 December Ashland County (Brady, Sherlock), 30 December, 18, 22 January and 22 February Vilas County (Baughman, Prestby), 3, 11 January and 19 February Florence County (Kavanaghs), 13, 16 February Langlade County (Baumanns, Schilke, Tessen), and 17 February Oneida County (Richmond).

Blue Jay—Reported in 67 counties with maximum number of 392 on 3 January on Friendship CBC Adams County (Grouch). Not reported in these counties; Douglas, Price, Rusk, Shawano, and Waushara.

American Crow—Reported in 70 counties with maximum number of 1000 on 28 December Richland County (Duerksen). Not reported in Price and Rusk Counties.

Common Raven—Reported in 36 counties with maximum number of 105 on 3 January on Florence County CBC.

Horned Lark—Reported in 41 counties with maximum number of 200 on 18 February Calumet County (Reimer).

Black-capped Chickadee—Reported in 70 counties with maximum number of 1105 on 3 January on Florence County CBC. Not reported in Price and Rusk Counties.

Boreal Chickadee—Total of 2 individuals reported on 2 CBCs; Armstrong Creek, Cable. Reported in 5 counties; 12 December Florence County (Kavanaghs), 20 December Ashland County (Sherlock), 4, 30 December, 2 January, 12, 14, 16 February Forest County (Kavanaghs, Prestby, Richmond, Tessen), 6 on 17 February Vilas County (J. Baughman), and 28 February Oneida County (Betchkal).

Tufted Titmouse—Reported in 26 counties with maximum number of 18 on 3 January on Friendship CBC Adams County (Grouch). Reported in these more northern counties; Buffalo, Chippewa, Eau Claire, Polk, and Trempealeau.

Red-breasted Nuthatch—Reported in 50 counties with maximum number of 241 on 3 January Florence County CBC.

White-breasted Nuthatch—Reported in 66 counties with maximum number of 115 on 3 January on Florence County CBC. Not reported in Dunn, Pepin, Price, Rusk, Shawano, and Washburn Counties.

Brown Creeper—Reported in 42 counties with maximum number of 12 on 3 January La Crosse County (Thometz). Reported from these northern counties; Ashland, Door, Florence, Iron, Langlade, Marinette, Menominee, Oconto, Oneida, Polk, Sawyer, and Vilas.

Carolina Wren—Total of 4 individuals reported on 3 CBCs; Baraboo 1, Madison 1, Milwaukee 2, and count week individuals on Hales Corners and Randolph CBCs. Reported in 8 counties; 2–30 December, 18 January, 26 February Dane County (Feist, McDowell, Pfeiffer), 20 December Ozaukee County (Frank), 20 December at Lark Park Milwaukee County (Frank, Wilson, T. Wood), 20 December–26 January Marquette County (Whitrock), 5 January Lafayette County (Romano), 14 January Waupaca County (Benada), 7 February Grant County (Fissel), and 25 February Crawford County (Kirschbaum).

Winter Wren—Total of 15 individuals reported on 8 CBCs; Blanchardville 1, Clyde 3, Ephraim 1, Green Bay 1, Madison 6, Milwaukee 1, Poynette 1, and Waukesha 1. Reported in 5 counties; 14 December Crawford County (Kirschbaum), 20 December Green County (Yoerger), 28 December Columbia County (Yoerger), 1 January Milwaukee County (Vargo), and 5 January Dane County (Thiessen),

Golden-crowned Kinglet—Reported in 25 counties with maximum number of 10 on 3 January Florence County CBC.

Eastern Bluebird—Reported in 26 counties with maximum number of 14 on 2 January Iowa County (Romano).

Townsend's Solitaire—One individual reported on Baraboo CBC. Reported in 2 counties; 7–27 December, 19–28 January; 1 and 23 February Devil's Lake Sauk County (Holschbach, Lesak, Mooney, Otto, Prestby, Schaefer, Schwarz, Tessen, T. Wood, Yoerger), and 18 January Vilas County (Peczynski).

Hermit Thrush—Total of 7 individuals reported on 5 CBCs; Brodhead 1, Hales Corners 1, Madison 2, Milwaukee 2, Waukesha 1, and a count week bird on Palmyra CBC. Reported in 5 counties; 4–30 December, 9–19 January, 1 February Dane County (Brabant, Feist, Fissel, Lohre, Marschal, Stutz), 7–26 December and 11–25 January Waukesha County (Gustafson, Howe, Szymczak, Zuhlke); 13 and 20 December Milwaukee County (Bontley, Hager, Wilson), 17 December and 18 January Green County (Yoerger), and 2 on 24 January Racine County (Wenzel).

American Robin—Reported in 45 counties with maximum number of 870 on 1 January St. Croix County (Maercklein). Reported in these northern counties; Ashland, Bayfield, Florence, Oneida, Polk, and Vilas.

Varied Thrush—Reported in 5 counties; TTP Dunn County (Stewart), 18 December - EOP Outagamie County (Prestby, Seidl, Tessen), 2–4 January Oconto County (Szymczak), 17–31 January (Figs. 1 and 2) Oneida County (Karnosky), and 7 February Rock County (Yoerger).

Gray Catbird—Total of 2 individuals reported on 2 CBCs; Madison, Riveredge. Four individuals were reported 29 December Columbia County (Martin).

Northern Mockingbird—One individual reported on Pardeeville CBC.

Brown Thrasher—Total of 2 individuals reported on 2 CBCs; Hales Corners, Spencer. Reported 15 and 29 December Ozaukee County (Strelka).

European Starling—Reported in 65 counties with maximum number of 5000 on 8 December Dane County (Stutz). Not reported in Juneau, Lincoln, Menominee, Price, Rusk, Sawyer, and Trempealeau Counties.

American Pipit—One individual reported 7 December Kenosha County (David).

Bohemian Waxwing—Total of 70 individuals reported on 2 CBCs; Florence 18, Grantsburg 52, and a count week report on Woodland Dunes NW CBC. Reported in 5 counties; 20 December Burnett County (Maercklein), 1 January-EOP Vilas County (J. Baughman, Peczynski), 175 on 3–13 January Florence County (Baumanns, Kavanaghs), 5 January Dane County (Pfeiffer), and 17 January Marinette County (Campbell).

Cedar Waxwing—Reported in 44 counties; with maximum number of 300 on 8 January Brown County (Schilke).

Yellow-rumped Warbler—Total of 20 individuals reported on 8 CBCs; Baraboo 4, Burlington 6, Hales Corners 1, Madison 1, Milwaukee 3, Poynette 1, Sauk City 3, and Waukesha 1. Reported in 14 counties with maximum number of 7 on 3 February Brown County (Schilke).

Pine Warbler—One individual reported on Green Bay CBC.

Summer Tanager—One individual reported BOP-4 December at a feeder in Beaver Dam Dodge County (Martinson). See "By the Wayside."

Eastern Towhee—Total of 3 individuals reported on 3 CBCs; Bridgeport, Plymouth, Sauk City, and a count week bird reported on Beloit CBC. Reported in 4 counties; 12–14 and 26 December Crawford County (Kirschbaum), 19 December Iowa County (Roethe), 28 December Sheboygan County (Brigham), and 16 January Green County (Zelinski).

American Tree Sparrow—Reported in 59 counties with maximum number of 311 on 15 December Lafayette County (Willard). J. Schaufenbuel noted that he encountered low numbers of this species in central Wisconsin.

Chipping Sparrow—One individual reported on Madison CBC.

Field Sparrow—Total of 6 individuals reported on 3 CBCs; Bridgeport 4, Kettle Moraine 1, and Lake Geneva 1. Reported 20 December Ozaukee County (Helland).

Fox Sparrow—Reported in 7 counties; 9 December–21 February Dane County (Bucci, A. Holschbach, Schiffman, Stutz), 13 December Milwaukee County (Hager), 23 December Iowa County (A. Holschbach), 26 December Crawford County (Kirschbaum), 30 December Columbia County (A Holschbach), 11 January Washington County (Frank), and 31 January Waukesha County (Gustafson).

Song Sparrow—Reported in 19 counties with maximum number of 25 on 13 December Jefferson County (Graham). Burnett was the most northern county reporting on 20 December (Maercklein).

Lincoln's Sparrow—Total of 4 individuals reported on 3 CBCs; Baraboo 1, Bridgeport 2, and Cedar Grove 1.

Swamp Sparrow—Reported in 6 counties; BOP-2 December Waukesha County (Gustafson), 9–28 December Dane County (A. Holschbach, McDowell, Stutz, Willard), 16 December Lafayette County (Willard), 3 on 17 December Grant County (Romano), 20 December Green County (Yoerger), and 28 December Columbia County (Yoerger).

White-throated Sparrow—Reported in 17 counties with maximum number of 7 on 19 February Dane County and 7 individuals TTP Winnebago County (Fitzgerald, Prestby, Shillinglaw). Reported in these northern counties; Florence, Marinette, St. Croix, and Winnebago.

Harris's Sparrow—Total of 2 individuals reported on 2 CBCs; Cedar Grove, Gurney, and a count week bird reported on Oshkosh CBC. Reported 1 January Sheboygan County (Cutright).

White-crowned Sparrow—Reported in 8 counties; BOP-15 February Manitowoc County (J Holschbach, Sontag); 10 and 23 December, 11 January, and 13–23 February Dane County (Gorman, McDowell, Pfeiffer), 10 December–4 January Iowa County (A. Holschbach), 13 December, 6 January, and 23 February Rock County (Klubertanz, Yoerger);17 and 20 December Green County (Yoerger), 1 January Ozaukee County (Schwartz); 7 and 23 February Waukesha County (Gustafson), and 4 on 21 February Walworth County (Black).

Dark-eyed Junco—Reported in 62 counties with maximum number of 462 on 31 December Green Lake County (Roti Roti). Not reported in these counties; Barron, Bayfield, Douglas, Iron, Lincoln, Price, Rusk, Sawyer, Shawano, and Washburn.

Lapland Longspur—Reported in 22 counties with maximum number of 98 on 2 December Manitowoc County (Mueller).

Snow Bunting—Reported in 43 counties with maximum number of 607 on 7 December Bayfield County (Brady). Reported in these northern counties; Bayfield, Burnett, Florence, Forest, Langlade, Marinette, Oneida, and Vilas.

Northern Cardinal—Reported in 60 counties with maximum number of 64 on 20 December on Monroe CBC Green County (Yoerger) and 42 in her back yard 26 February

Winnebago County (Harriman). Reported in these northern counties; Ashland, Bayfield, Florence, Forest, Marinette, Oneida, and Vilas.

Rose-breasted Grosbeak—Total of 2 individuals reported on 2 CBCs; Clyde, Kenosha.

Red-winged Blackbird—Reported in 20 counties with maximum number of 115 on 20 December Burnett County (Maercklein).

Eastern Meadowlark—Reported in 3 counties; 7 December Portage County (David), 8 and 9 December Door County (Shumway), and 14 January Grant County (Stark).

meadowlark sp—Total of 4 individuals reported on 3 CBCs; Bridgeport 2, Oconomowoc 1, Platteville 1, and a count week bird on Sturgeon Bay CBC.

Rusty Blackbird—One individual reported on Cooksville CBC. Reported in 3 counties; BOP-10 December Waukesha County (Gustafson), 4 December Winnebago County (Harriman); 1and 3 January Rock County (Reischel, Yoerger).

Brewer's Blackbird—Total of 2 individuals reported on Burlington CBC. Reported in 2 counties; 2 January Columbia County (Anderson, Doverspike), and 2 on 4 January Racine County (Howe).

Common Grackle—Reported in 6 counties; 7 and 26 December, 10 January, 24 February Iowa County (A. Holschbach, Thiessen), 14 December Rock County (Yoerger), 19, 25 December Marinette County (Campbell), 4 January Winnebago County (Paulios), 9 January St. Croix County (Maercklein), and 75 on 7 and 1 on 12 February Walworth County (Fitzgerald).

Brown-headed Cowbird—Reported in 18 counties with maximum number of 25 on 24 February Walworth County (Fitzgerald).

Gray-crowned Rosy-Finch—One individual was seen sporadically and photographed at a feeder 14 December–17 January Grant County (Huebschman). See "By the Wayside."

Pine Grosbeak—Total of 125 individuals reported on 10 CBCs. Reported in 8 counties as compared to 25 in the 2007–2008 winter season; TTP Douglas County (LaValleys), 6 on 20 December Ashland County (Sherlock), 1 January Marinette County (Campbell), 10 January–25 February Bayfield County (Brady), 12 January Florence County (Kavanaghs), 12 January Langlade County (Tessen), 3 on 12 January, 5 on 31 January, 6 on 12 February, 3 on 16 February Forest County (Baumanns, Tessen, Kavanaghs), and 14 February Oconto County.

Purple Finch—Reported in 50 counties with maximum number of 69 on 15 February Forest County (Kavanaghs). Reported in these northern counties; Ashland, Bayfield, Douglas, Florence, Forest, Langlade, Marinette, Oneida, and Polk.

House Finch—Reported in 48 counties with maximum number of 156 on 19 December Dane County (Evanson).

Red Crossbill— Total of 130 individuals reported on 11 CBCs. Reported from 13 counties; BOP Dane County (E. Wood), 7 December Waukesha County (Szymczak), 59 on 19 December Ashland County (Sherlock), 30 December Vilas County (Prestby), 31 December Bayfield County (Brady), 31 December–11 February Florence County (Kavanaghs), 10 January Menominee County (Baumanns), 12 January Dodge County (Seegert), 12 January and 12 February Forest County (Kavanaghs, Tessen), 20 January Oconto County (Schilke), 20 January Richland County (West); 24 and 29 January Grant County (Kavanaghs, Johnson), and 2 February Oneida County (Karnosky).

White-winged Crossbill—Reported in a record number of 57 counties as a massive invasion of this species occurred this season. Maximum number of 314 reported 4 January Winnebago County (Paulios). Not reported from these counties; Buffalo, Crawford, Dunn, Jackson, Lafayette, Pepin, Pierce, Price, Rusk, St Croix, Sawyer, Shawano, Taylor, Trempealeau, and Vernon.

Common Redpoll—Reported in 65 counties with maximum number of 1343 on 3 January Florence County CBC. Not reported in these counties; Dunn, Pepin, Pierce, Price, Rusk, St. Croix, and Shawano.

Hoary Redpoll—Total of 2 individuals reported on Florence County CBC. Reported in 18 counties with only 6 documentations accepted by the records committee. See "By the Wayside."

Pine Siskin—Reported in 66 counties with maximum number of 470 on 3 January on Florence County CBC. Not reported in these counties; Dunn, Pepin, Pierce, Price, Rusk, and Wood.

American Goldfinch—Reported in 66 counties with maximum number of 732 on 3

January on Florence County CBC. Not reported in these counties; Barron, Dunn, Pepin, Price, Rusk, and Shawano.

Evening Grosbeak—Total of 63 individuals reported on 11 CBCs. Reported in 10 counties with maximum number of 53 on 17 January Bayfield County (Brady). 4 December, 11 January, and 12–16 February Forest County (Bridge, Kavanaghs), 6 December Kenosha County (McFall), 12 December, 3, and 9 January Florence County (Campbell, Kavanaghs), 3 January Marinette County (Swelstad); 10 and 17 January, and 16 February Menominee County (Baumanns, Schilke, Tessen), 30–31 January Oconto County (Szymczak); 14 and 23 February Vilas County (Baughman, Dring), and 19 February Ashland County (Brady). All counties reporting were in the northern third of the state with the exception of the unusual sighting on 6 December Kenosha County (McFall).

House Sparrow—Reported in 57 counties with maximum number of 377 on 20 December Green County (Yoerger).

CONTRIBUTORS

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Eastern Kingbird *by Denny Malueg.*

"By The Wayside"—Winter 2008–2009

Some of the species documented this season as rare or uncommon include Barrow's Goldeneye, Black-legged Kittiwake, Slaty-backed Gull, Northern Hawk Owl, Summer Tanager, Gray-crowned Rosy-Finch, and Hoary Redpoll.

BARROW'S GOLDENEYE (*Bucephala islandica*)

4, 11, 18, and 25 January 2009, Sheboygan Harbor and North Point, Sheboygan County—On 4 January the Barrow's Goldeneye was in the river behind the shops in the Riverfront Shopping District which borders the Sheboygan River. On the other dates it was seen from North Point Park parking lot except for 25 January when it was closer to the covered pavilion at North Point. During all observations there were numerous nearby Common Goldeneye for direct comparison.

The Barrow's Goldeneye had black extending from the back farther down the sides than on the Common Goldeneye. A black spur extended downward from the shoulder area nearly to the waterline, thus partially separating the white of the breast from the white of the sides. Six conspicuous large white dots and one smaller white dot extended rearward from the shoulder area back over the scapulars. Due to lack of sunlight during most observations the head and throat appeared black, but on 25 January the sun revealed the purple sheen to the head feathers. There was a white crescent between the yellow eye and the black bill which was different than the rounded white spot in this area on Common Goldeneyes. The forehead was noticeably steeper and the bill shorter and stubbier on the Barrow's Goldeneye. There was also a larger area of black on the rear flanks of the Barrow's. Two horizontal white streaks were seen below the scapular dots in the black area above the lower white sides.—*Tom Wood, Menomonee Falls, WI.*

(Editor's note) Although it is no longer necessary to document Barrow's Goldeneye with the Rare Species Long Form Documentation, I have included this documentation.

BLACK-LEGGED KITTIWAKE (*Rissa tridactyla*)

3 January 2009, North Point, Sheboygan County—Several "Ring-billed Gulls" took flight from a small group of resting Herring and Ring-billed Gulls on the ice south of the North Point parking lot. My recollection is

two birds peeled off to go south and one banked to head north (at least I assume that is where the bird came from—I didn't see it approach and I didn't see it at rest). My sudden double take on the bird occurred due to the striking upper wing pattern as it banked. The outer primaries and outer edge of the wings were black from carpus to wingtip. This black was fairly solid. A slightly more broken line of black extended from the carpus into the middle of the wing's attachment to the body. The mantle was medium gray (not different from a Herring or Ring-billed that I could tell). The gray extended out on to the upper surface of the inner half of the wing (thus the black of the inner half of the wing was over this gray and in essence was surrounded by it). The ends of the secondary and the inner primaries and primary coverts were white. The white tail ended in a flat line (couldn't detect a notch and no wedge-shape of a Ross's Gull) and a black edge to tail was noted but it appeared not to reach either outer tail feather.—*Jim Frank, Milwaukee, WI.*

Slaty-backed Gull (*Larus schistisagus*)

15 February 2009, Sheboygan Harbor, mouth of river, Sheboygan County—Almost immediately, I noticed a gull flying in from the far reaches of the harbor where a large flock of gulls rested on the ice. This bird landed on the edge of the ice about 100 yd away on the south side of the harbor. As it landed, the dark mantle was readily apparent in the afternoon sunlight as I looked east. I initially wrote it off as Great Black-backed Gull, but as it landed near four Herring Gulls, it didn't make sense as a Great Black-backed. The first thing that didn't make sense was the bird was not large enough. It was the same size as 2 of the Herrings and slightly larger than the two other Herrings. Then I was noticing the mantle color was not the same blackness as the primary wing tips—which were black. The mantle was decidedly darker gray than the Herring mantles, even visibly to the naked eye at that distance, but the gray was nowhere as dark as a Great Black-backed, not even as dark as a Lesser Black-backed. Perhaps the closest depth of grayness would be a Laughing Gull?

The bird was otherwise entirely white on its head, neck breast, belly, and tail. There were just a smattering of pale gray smudges on the lower nape, nothing like the heavy brown streaking on most of the Herring Gull heads. The legs were pink, a richer shade than the pale pink of most of the Herrings. The overall body contour was the full-breasted contour of a Herring Gull, not the flat-backed appearance of a Lesser Black-backed Gull. The bill was raw egg yolk yellow colored rather than the cooked egg yolk yellow shade of the Herring Gull bill. There was a bright red spot on the lower bill at the gonys. The overall size of the bill seemed to be the same in width as the Herring Gulls, perhaps the length was a slight bit longer than the Herrings. There wasn't any evident gonydeal thickening. All in all, this bird looked like it was not respecting the winter season and had moved itself into breeding plumage. The only other notation at this point was the small white spots on the tips of the folded black primaries, much the

same as the Herrings. At this point, a 1st year Great Black-backed sailed in to land. The Great Black-backed dwarfed this bird. The dark bill on the Great Black-backed was much thicker than the bill of this gull.

At this point I strongly felt this was the Slaty-backed Gull that had been reported around New Year's Day here (but I didn't recall any other postings since then). The Great Black-backed bothered this Gull enough to force it to flap its wings and move about 10 feet away. Unfortunately, the near under wing surface screened the dorsal surface of the far wing as it fluttered, so the wingtips pattern was obscured. The questionable gull then laid down on the ice. I went back into the car to warm up, but kept half an eye on this bird for any sign it might fly. It would stand up, preen a couple feathers, lay back down, stand up again, look alert as if it might fly, lay back down, etc. A Glaucous Gull settled in next to it, and again it was noticeably smaller than the Glaucous, the bill narrower on the unidentified bird. I got back out of the car and back on the scope waiting and waiting for the bird to give me a look at the wingtips. It preened a bit more extensively, but [it] wouldn't fan the wings. It must have stood up and laid down 4 times while I watched it. It finally extended its wings upward to almost take flight, but just move a few feet from the Glaucous. That movement allowed me a look at the upper side of the far wing. The anticipated white spots were evident in what looked like the 6th–8th primary tips between the dark gray mantle and the junction with the black primary feathers tips. There was a white spot on the 10th (outermost) primary tip, but the 9th primary area seemed all black. The entire wing had a white edge to it, (hence the white primary tips on the folded wing). This extra line of white spots was just proximal to the white tips and black ends of the primaries. I had the needed "string-of-pearls" to identify this as a Slaty-backed Gull.—*Jim Frank, Milwaukee, WI.*

NORTHERN HAWK OWL (*Surnia ulula*)

1 January 2009, Mead Wildlife Area, Marathon County—On January first while driving on Smokey Hill Road in the Mead Wildlife Area I saw a long-tailed, round headed, medium sized bird that appeared to be an owl. The bird was perched near the top of a small tree (about 15 ft from the ground) approx 100 yards north of the Little Eau Pleine River. Having observed a Northern Hawk Owl previously, and considering the bird's basic shape and horizontal attitude, I reached that hopeful assumption.

I stopped my car on the road approx 50 ft from the bird and using binoculars noted it was an owl with yellow eyes and bill, the breast was completely covered with rufous stripes. Black vertical bands, "side burns," were located on either side of the head. The forehead was speckled white spots on black and the back was covered with white spots. My assumption of Northern Hawk Owl was confirmed.

As I left my car to get a closer view of the owl, a group of 20–30 snowmobiles approached within 40 ft of the bird. The owl left its perch, flew directly over me, and disappeared over

the trees along the Little Eau Pleine River.

I returned to the area on 2 January and located the Northern Hawk Owl in a tree within one hundred feet of the original location and took the accompanying photos.—*David Swartz, Port Edwards, WI.*

Summer Tanager (*Piranga rubra*)

17 November–4 December 2008, Beaver Dam, Dodge County—The first thing I noticed about the bird was the bright yellow color, unusual for this time of year in Wisconsin. I knew I had never seen this species before. I noted the more olive colored wings with a brighter yellow breast. I also noted a light eye ring and fairly large bill. It was definitely too big to be a goldfinch which I immediately ruled out after a look through my binoculars from my kitchen window.

The bird was sitting on a baffle, then flying up to and eating from a suet cake. Occasionally it would manage to cling to the suet feeder. We tried putting out fruit, but the bird only seemed interested in the suet.—*Jane Martinson, Beaver Dam, WI.*

Gray-crowned Rosy-Finch (*Leucosticte tephrocotis*)

17 January 2009, Lancaster, Grant County—This is what I am sure is the second sighting that I had of this species. The first was on 14 December. The gray on the nape (or slightly higher), the light-color beak which was bordered by dark below and above are what initially jumped out. Otherwise a drab, brownish bird. When observing the bird through the binoculars my primary focus was on the head region. After it left I also studied the photos my wife took. It was seen through our back window which looks onto our deck from our family room. [The bird was] picking up bird seed on the snow-covered deck. [It was] never actually observed at a feeder, but either at the deck railing or on the surface of the deck itself (which, again, is snow-covered).—*Jeff Huebschman, Lancaster, WI.*

[*Editor's note: the photos submitted to the Records Committee were not high enough resolution for printing.*]

Hoary Redpoll (*Acanthis hornemanni*)

26 January 2009, UW Madison Arboretum, Dane County—Steve Thiessen and I picked out a frosty appearing redpoll among about 25–30 Common Redpolls and about 50 Pine Siskins. It was obviously whiter than the other redpolls to the point where when you took your eyes off the bird it was easy to relocate among the rest of the group. The frosty appearance was mainly evident on the underside and the white in the wings. Since we were mainly looking up at the bird, the first field mark we noticed was that the under tail was completely white. There was absolutely no sign of any kind of streaking here. When the bird gave a side profile view, we noted that the streaks down the side (below the wings) were noticeably faint and much less numerous than the nearby Common Redpolls. The bird was a male as evidenced by the pink on the breast. This pink, however, was a lighter shade of pink and more con-

tained than the extensive reddish pink on some of the nearby male Common Redpolls. Since the bird was high in the tree and feeding actively, it was hard to get a good look at the bill. However, when it briefly paused a few times we noticed a stout bill that seemed like it had been squished in to its face compared to the nearby Common Redpolls. We never had a great look at the rump to see if it was unstreaked or not but we feel that our other observations were enough to ID this bird as a male Hoary Redpoll. Overall, the bird also completely lacked the brown tones that are obvious on female redpolls and most male Commons.—*Tom Prestby, Wauwatosa, WI.*

7 February 2009, La Crosse County—A female Hoary Redpoll was seen in the midst of a flock of approximately 100 Common Redpolls that were feeding at a bird feeding station. The bird was first noticed because it was noticeably lighter than the other birds around it. The bird was standing on a perch on one of the tube feeders and was faced away from me. The back of the bird was a frosted white/buff color with obvious dark streaks that ran the length of the bird. The bird's back was much lighter than those of the birds around it and did not have the overall brown tone of a Common Redpoll. Instead, it appeared light and "frosted" with more contrast between the white/cream background and the "frosted" dark stripes than those of a Common Redpoll and the edging of those feathers and the tail feathers were much lighter (almost pure white). The wing bars were much more noticeable than those of the Common Redpolls due to the contrast between the darker base color of the wing feathers and the almost pure white bars.

The bird's rump was white with a hint of very light streaking. The belly was also white with finer streaks on the flanks than the streaks on adjacent Common Redpolls.

The bird's head was blocky. Its face had a high forehead and appeared almost flat in profile with a very tiny bill sticking out. The flat face and the tiny bill gave the bird's face a "pushed in" appearance. The bill was noticeably smaller and daintier than those of the nearby Common Redpolls. It was nearly 1/3 shorter and did not appear to be as tapered as that of a Common Redpoll. The angle formed by both mandibles made the bill look like a tiny isosceles triangle sticking out from its flat face. The bird's bill was yellow with dark stripes running down the center of the upper and lower mandibles.

This bird had a relatively small black bib around its bill and very small red cap compared to the Common Redpolls around it. The bird's face was very light colored and the neck and the margin around the cheeks were much lighter than the cream colored cheeks. The margin between the top of the bib and the bird's red cap was also very light.—*Dan Jackson, La Crosse, WI.*

14 February 2009, Wisconsin Point, Douglas County—Around 12:30 PM on 14 February 2009 Gary Turk and I were on Wisconsin Point in Superior, WI. About half way down Wisconsin Point road we saw a flock of redpolls. There were about 18 of them foraging in the birch trees and small shrubs. We observed one lighter colored bird, very frosty looking that stood out from the others. We observed buffy white

undersides, unstreaked sides, a smaller circle of red on the crown and a slight amount of pink color on the upper breast that was unique among the other male Common Redpolls. We clearly saw the pure white rump patch and were able to distinguish the relatively small beak on this bird. We enjoyed watching this bird for about 2 minutes and concluded that this was a male Hoary Redpoll.—*Marty Evanson, Madison, WI.*

17 February 2009, Grand View, Bayfield, County—On 14 February 2009 a female Hoary Redpoll frequented my feeders and yard in the Chequamegon National Forest southeast of Grand View in Bayfield County. The bird was present amidst 70 Common Redpolls throughout the entire day and afforded extensive observation at very close range, often at distances less than 30 feet. I took approximately 500 images of the bird (thank god for digital!) and studied the bird—often in direct comparison with Commons—collectively for 3–4+ hours. Photos are available at http://www.pbase.com/rbrady/hoaryfeb09.

This Hoary Redpoll was a female based on the lack of pink or red anywhere in the plumage. The bird was distinct in having a very pale silvery-gray ground color throughout, not just up the center of the back, which continued onto the nape and much of the head (the auricular was slightly browner). This yielded a frosty look not present in any adjacent Common Redpoll of any age/sex. The rump was bright white with an extensive area that was unstreaked. The red cap on the forward was slightly smaller than in most adjacent Commons but while this supports Hoary in combination with other features, this in itself is not diagnostic of Hoary. The bill was small and triangular but in most cases did not demonstrate the "classic" stubby, pushed-in look often associated with Hoary. However, the bill was smaller and more equally triangular than adjacent Commons and within the range of variability for Hoary. The face showed a dusky black chin flanked by unstreaked, buffy patches on its lower sides. The under parts were white with a couple short dark thicker streaks on the upper breast near the shoulder but only a few, thin streaks lower on the sides of the breast. The under tail coverts appeared almost entirely white in many views but close observation and photos revealed that two moderately thick streaks were present on two larger coverts but those were largely obscured by smaller and entirely white, unstreaked coverts overlaying these in most situations. However, these two streaks and the lack of any adjacent streaks are well within range for a female Hoary. Lastly, the lower white wing bar, formed by the white edges to the secondary upper wing coverts, was broad and clean, which some sources suggest as a Hoary feature.

Overall, while a couple [of] features on this bird were not "classic" Hoary, e.g. the bill and under tail, these features are within range for Hoary, especially a female, and combine with the pale back, white rump, and sparsely marked under parts to adequately support this identification. A Common Redpoll in any age/sex class would not show this combination of features. Females in particular would have browner backs, streaked rumps, more heavily marked under parts, and more than two streaks on the under

tail coverts.—*Ryan Brady, Grand View, WI.*

17 February 2009, Fitchburg, Dane County—I was watching a mixed flock of Pine Siskin, Common Redpolls, House Finches, and American Goldfinch from my car at a local feeder. One of the redpolls caught my eye as it was significantly lighter than the others. I was able to see it at the feeder and flying between the feeder and local trees. The bird was more frosty gray on its back than the Common Redpolls which all showed more brown. The wings showed significant white including one large wing bar and another smaller one. The streaking along the sides of this bird was fine and muted compared to the Common Redpolls and its rump was white and showed no more streaking when seen either in flight or when feeding. The under tail coverts were never seen from below, but from what I could see from the side was all white with no streaking. The bird's bill looked smaller than the Common Redpolls and face had a flat look to it. The black chin stood out against the lighter head and cheeks and was most noticeable below the bill. The red patch was quite evident when the bird dipped its head but there was a noticeable light area between the red patch and the black face markings. There was no size difference between this bird and the Common Redpolls. There was no pink on the breast of the bird. The rump, the side streaking, the face, and the overall frosty gray especially on the back, wings, and cheeks led me to Hoary Redpoll. I checked my field guides; the bird looked very much like adult female southern Hoary Redpoll in the Sibley guide.—*Bob Bucci, Fitchburg, WI.*

26 February 2009, Arena, Iowa County—This bird was first picked out of the group of 235 Common Redpolls by the overall lighter coloration, but ID was based on the combination of a few features. It was the same size and shape as a Common Redpoll, and had dark wings with white wing bars, brown striping on the back, head, and sides, a red forehead, a yellow beak with black around the beak, and a white breast and belly. The features that separated it from the Common Redpolls (besides the frostier coloration) was that it only had about ½ the amount of streaking on its sides, its bill was a bit smaller than the bill of any of the nearby Commons, and there was no streaking that I could see on the white rump and under tail coverts of this redpoll. The face of this redpoll was also lighter and less streaked than any of the Common Redpolls. From the photos and identification tips that I have read I would ID this bird to be a female Hoary since it had no red on the breast, and a little heavier streaking on the sides than would be expected for a male Hoary Redpoll. The same, or a very similar, bird was seen again on 28 Feb.—*Aaron Holschbach, Arena, WI.*

Ospreys on nest *by Denny Malueg.*

WSO Records Committee Report: Winter 2008–2009

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The WSO Records Committee reviewed 29 records of 11 species for the winter 2008–2009 season. Twelve of the records were accepted. Five additional old records were evaluated with two of these being accepted. The most unusual of the season's records was the second state record of a Gray-crowned Rosy-Finch.

Accepted Records

Black-legged Kittiwake—
#2009-001 Sheboygan Co., 3 January 2009, Frank.

This slightly smaller than Ring-billed Gull-sized gull was seen briefly passing along the shoreline at less than 50 ft. The black upperwing markings were eye-catching. Black extended along the leading edge of the primaries from carpus to wing tip. The black then extended from the carpus across the middle of the inner half of the wing to the middle of the wing's attachment to the body, though in a more broken pattern than the relatively solid black primary edge. The inner wing portion of the black was surrounded by gray, the same color as the mantle. The inner primaries and ends of the secondaries were white, as was the tail and head. The tail was squared off and had a black tip, although it did not extend out to the outermost retrices. The bill and feet were black. The anticipated black nape collar was not evident (as is sometimes the case).

Slaty-backed Gull—
#2008-091 Sheboygan Co., 15 February 2009, Frank.

This gull was observed at 100 yards in direct comparison to a Great Black-backed Gull, a Glaucous Gull, and 4 Herring Gulls. It was seemingly dwarfed by the Great Black-backed, noticeably smaller than the Glaucous, the same size as two of the Herring Gulls, and slightly larger than the other two Herring Gulls. The mantle was dark gray in color; noticeably darker than the Herrings, not black as the primary wingtips were; and was even felt to be slightly less dark than a Lesser Black-backed Gull. The closest comparison suggested was the dark gray of a Laughing Gull mantle.

The overall shape of the bird was Herring Gull-like in that it was full-

breasted, not the flat-backed shape of a Lesser Black-backed Gull.

The head was white, but with a few gray smudges on the nape. The pink legs were darker pink than the Herring Gulls and the yellow bill was again a deeper shade than the yellow of the Herring Gulls, and exhibited a red spot at the gonys. The bill was parallel-sided, not demonstrating anything of the gonydeal thickening nor overall width of the Great Black-backed Gull. The relative length of the bill was just slightly longer than the Herrings' bill.

The view of the dorsal wingtips was finally seen when the wings were extended dorsally to almost take flight. In that instance, the subterminal white spots between the dark gray of the mantle/wing surface and the black primary wingtips was noted. It appeared to extend through the 6th–8th primaries, but be absent at the 9th primary with a large white spot on the 10th primary.

Observers should always consider the existence of Great Black-backed or Lesser Black-backed Gull hybrids in analyzing what appear to be Slaty-backed Gulls. In this case, the size and leg color exclude a Lesser Black-backed genetic pool. The mantle color seems to be at the lighter end of what might be considered for Great Black-backed/Herring hybrids. In addition, the size and the shape of the bill and overall size didn't show evidence of Great Black-backed parentage.

Northern Hawk Owl—

#2009-013 Marathon Co., 1, 2 January 2009, Swartz (photo).

Evident in the photo is a medium-sized, round-headed owl, with a relatively long tail. The dark stripes laterally framing the facial discs were apparent as was the finely white spotted forehead and yellow eyes. Fine barring across the breast and larger white spots on the wings were also noted.

Summer Tanager—

#2009-096 Dodge Co., 17 November–4 December 2008, Martinson (photo).

Photographic evidence revealed a dirty yellow overall plumage with more olive-brown tones on the wings, but not the dark coloration of a Scarlet Tanager. The bill was flesh-colored and longer and thicker than the bill of a Scarlet Tanager.

This is the fourth record for Wisconsin from December, all in the past 10 years. Two of those records were of birds lingering into January.

Hoary Redpoll—

#2009-002 Marathon Co., 1 January 2009, Belter.

#2009-004 Dane Co., 26 January 2009, Prestby.

#2009-005 La Crosse Co., 7 February 2009, D. Jackson (photo).

#2009-006 Bayfield Co., 14 February 2009, Brady (photo).

#2009-007 Dane Co., 17 February 2009, Bucci.

#2009-010 Iowa Co., 26 February 2009, A. Holschbach.

#2009-014 Douglas Co., 14 February 2009, Evanson.

In comparison to adjacent Common Redpolls, these individuals were extremely pale in overall color. Its yellow bill was smaller and shorter than the bills of the Common Redpolls. The flanks were virtually unstreaked and the rumps unmarked, as were the white undertail coverts.

These reports typically discussed at

least 4 of the 5 discriminating characteristics between Common and Hoary Redpolls.

Gray-crowned Rosy-Finch—

#2009-011 Grant Co., 14 December 2008, 17 January 2009, Huebschman (photo).

The photograph revealed the pale conical finch bill on an overall brown body and head. An obvious pale gray patch extended from behind the eye to the nape. The wings were frosted in gray. The lower breast and belly were paler than the breast, but cross-hatched with darker markings.

The plumage seems to indicate a female bird of the interior race.

This is Wisconsin's second record, the first occurring in February of 1981 in Dunn Co.

Records Not Accepted

Franklin's Gull—

#2009-014 Manitowoc Co. 25 February 2009.

This gull was not given a relative size reference within the mixed flock of gulls it accompanied. The mantle was at one point indicated to be "dark" and at another point in the description it was "brownish-gray." In addition, the primaries were described as dark brownish-gray without any white markings. The aspects differentiating this gull from the others was remnants of a hood on the nape and back of the head with some forward extension toward the side of the face and the eyes. The existence or lack of white eye lids wasn't addressed. The legs were black as was the bill, the bill felt to be "rather small." The upper breast and sides were white, without the gray smudging expected on a Laughing Gull.

The report focused primarily on comparison to a Bonaparte's Gull. Although the breast being white and the bill being small favor the Franklin's Gull identification over a Laughing Gull, more direct size, bill shape, and leg length comparisons would have been important to confirming the identification. A clearer description of the mantle would have alleviated some confusion as well.

Slaty-backed Gull—

#2008-097 Manitowoc Co., 7 October - 9 January 2009.

#2008-090 Racine Co., 10 December 2008.

#2008-091 Sheboygan Co., 29 December 2008, 1 January 2009 (2 reports).

The Manitowoc bird was briefly seen in October, but a more lengthy view was had in January. The Herring Gull-like overall size, dark gray mantle, and black primaries were reported.

The white tertail crescent area was "exaggerated." The yellow bill had dark markings toward the tip and was disproportionately large compared to the Herring Gulls. This size difference wasn't specifically indicated to be in length or width. "Four white spots" were reported "on the ends of the first 5–6 primaries." The legs were bright pink. The inexact placement of the "white spots" on the wingtips leave this identification tenuous.

The Racine report indicated a Lesser Black-backed-like dark gray mantle, pink legs, and yellow bill, without gonydeal expansion. It was the same size as adjacent Herring Gulls, perhaps a "little more robust."

The tertial crescent was larger than the Herring Gulls'. Unfortunately, no observation of an extended wing was achieved to confirm the likely identification as a Slaty-backed.

The Sheboygan reports were of a dark mantled gull, but not as dark as a Great Black-backed, with pink feet. Specific size reference wasn't made on the 29th report. A "string of pearls" was reported, but no actual description of what was seen on the wing was attempted.

The January 1st reports also noted the noticeably darker mantle and the "string of pearls" again without giving a specific description of the wing pattern. Although observing at the same time, one observer noted the bird to be slightly larger than adjacent Herring Gulls and stated the bird did not standup so leg color was not determined. The second observer gave no indication of overall size, suggested the mantle to be darker than a Lesser Black-backed, simply stated the bill to not be as large as a Great Black-backed with no other characterization of it, but indicated the legs to be pink.

Observers should not fall into the assumption that Slaty-backed Gulls are common or easy to identify. Reports should reference overall size and shape of the bird, darkness of the mantle, size and shape of the bill, leg color, and specific description of the upper and or lower primary surfaces. The "string-of-pearls" needs to be replaced by as specific a location of the subterminal white spots in the outer primaries as was witnessed as well as where they were not noted. These white spots typically do not extend throughout the outer primaries although this is not suggested by the simple use of the terminology "string of pearls in the outer primaries." Finally, a word of caution should be extended into the "similar species" considerations. There is potential for Great Black-backed or Lesser Black-backed hybrids to appear. Observers should remember to consider such possibilities, again emphasizing the need to report as much as possible about the sizes, shapes, relative color shades etc. of various parts of suspected Slaty-backed Gulls.

American Three-toed Woodpecker—
#2009-012 Washington Co., 30–31 January 2009.

This Hairy Woodpecker-sized woodpecker was "heavily barred," but the location of the barring was not specified. The back was black, but probably "speckled." The intriguing part of this description is the "yellow on the side of the head." Specifically mentioned was the fact this yellow was not a yellow cap. The pattern of black and white of the bird isn't described.

The assertion that the cap was not yellow isn't consistent with a Three-toed or Black-backed Woodpecker. The location of the yellow on "the side of the head" is suggestive of an aberrant Hairy Woodpecker—the red patch being replaced by yellow in isolated birds.

American Pipit—
#2008-095 Dodge Co., 19 December 2008.

The limited description was of a bird with a distinctive appearance from a Horned Lark. Other than the bird being smaller and having a light underside with light streaking, there isn't much to explain the dissimilarity indicated. Tail bobbing is mentioned as well.

Without bill shape and general color patterns, the identification isn't supported enough to confirm an American Pipit. A Palm Warbler could also fit the limited information supplied.

Brewer's Sparrow—

#2008-093 Waukesha Co., 22,25 December 2008.

Three brief naked-eye sightings totaling 45 seconds were of a very small, clean-breasted sparrow with a somewhat long tail. The overall color impression was of "washed out" grays and pale browns. The crown appeared to be evenly streaked with fine black streaks and lacked evidence of a median crown stripe.

The face exhibited a thin, complete eyering, indistinct auricular outlining, and a pale eyeline and superciliary line were noted, but no malar stripe was detected. No particular mention was made of the loral area, this area is expected to be dark in an immature Chipping Sparrow, but pale in an immature Brewer's Sparrow.

The identification's reliance on the grayish tones rather than buffy and brown tones to distinguish immature *Spizella* sparrows may not be as distinctive as suggested. The median crown stripe may be paler in a Brewer's than a Chipping Sparrow, but still present to some degree. The lack of dark in the loral area may be the most useful distinction between the two species, but it was not noted in these brief observations. In all likelihood, identification of immature *Spizellas* would be problematic, even with photographic evidence.

Hoary Redpoll—

Analysis of the myriad of Hoary Redpoll reports this winter was based on the indications about the overall lightness of the plumage, coupled with the white, unstreaked rump, thinly streaked flanks, minimally streaked undertail coverts, and the smallness of the beak. If two or more of these field marks were not indicated, the identification was considered tentative.

#2009-003 Adams Co., 19–21 January 2009.

#2009-004 Dane Co., 27 January 2009.

#2009-004 Dane Co., 27 January 2009.

#2009-004 Dane Co., 3 February 2009, (photo).

#2009-008 Iron Co., 21 February 2009.

#2009-009 Chippewa Co., 21 February 2009.

#2009-013 Jackson Co., 14 February 2009.

The Adams County report simply stated that an unspecified, but multiple number of redpolls were whiter than the others. No other markings were used to support the identification.

The Dane County reports indicated white birds, some indicated smaller bills, some indicated finer flank streaking, or lack of undertail covert streaks. Rumps were not visible or not reported. The photo was of a small-billed bird with somewhat thinner flank streaks, but rump and undertail coverts weren't detectable.

The Iron Co. bird was of a lighter bird with a small beak and no rump streaking. The flanks and undertail coverts were not described.

In Chippewa Co., the bird was light with light flank streaking. There was one undertail covert streak noted. The beak and rump weren't described.

Finally, the Jackson County bird was "paler" and had "unstreaked" sides.

The rump, bill and undertail coverts weren't described.

Old Records—Accepted

Western Kingbird—

#2008-092 Kewaunee Co., 17 October 2008, Schilke.

This kingbird-sized bird had a dark brown-black back, yellow belly, a light gray upper breast, a white throat, and a gray crown. The dark bill was thicker than a thrush, but not conical as a grosbeak would exhibit. The squared-off tail was dark in color with white lateral edges.

This record falls short of the latest state record of 1981 by three days.

Blue-headed Vireo—

#2008-098 Dane Co., 11 April 2008, McDowell.

An initial view from below left the impression of a Yellow-rumped Warbler-sized songbird. As the bird descended to eye level, 15 feet away, the gray head, olive back, white breast, and yellow flanks were evident. White wingbars and eyering were apparent; as was the white eyering extending forward through the lores, just above a black line between the eye and bill. The bill was thick and dark in color.

This eclipses the previous earliest state record of April 13th, eight years earlier.

Old Records—Not Accepted

Swainson's Hawk—

#2008-075 Richland Co., 15 April 2008 (photo).

The photo is of a buteo with a short tail that exhibits a wide terminal black band. The head is dark, but the dark-hooded effect doesn't extend down onto the upper chest. The underwing is primarily white with a thin black terminal edge. There is none of the contrasting light underwing coverts versus gray flight feathers that would be anticipated with a Swainson's Hawk. Looking closer at the tail reveals the banding of a Broad-winged Hawk. The slightly longer wing tips would suggest a year old bird still showing the shape of an immature bird as it transitions into adult plumage.

Prairie Falcon—

#2007-108 Marathon Co., ? December 2007.

This report was of a large hawk on a telephone pole. Relative size and shape references were not made. A light stripe was noted above the eye and a dark stripe extended below the eye. The breast was "more streaked than spotted." No color references were made.

Without more information, this hawk can't be categorized as falcon, buteo, or accipiter. Without more size information, few species are eliminated from consideration.

Hudsonian Godwit—

#2008-099 Chippewa Co., 23 April 2008.

The focus of this report was on a shorebird that was larger than a snipe with an upturned bill. The bill was yellow with a black tip. Other than a suggestion that the breast and belly were red, no other color information is supplied.

There is enough evidence to suggest a Hudsonian Godwit, but more specific information would be helpful to complete the report.

WSO Awards—2009

The Board of Directors of the Wisconsin Society for Ornithology presented two Silver Passenger Pigeon awards on Saturday, 23 May 2009, at the annual convention held in Siren, Wisconsin, and a Bronze Passenger Pigeon given prior to the convention.

Bronze Passenger Pigeon Award

The Bronze Passenger Pigeon is given to individuals who have made exceptional contributions to the study and appreciation of birds outside of service to WSO, particularly at the state or local level. The 2009 Bronze Pssenger Pigeon was awarded to Ty and Ida Baumann (Fig. 1) for their years of service on behalf of birds and birders in the Green Bay area, particularly at Bay Beach Wildlife Sanctuary, and for many years of conducting Breeding Bird Surveys.

Ty and Ida moved to the Bay Beach Wildlife Sanctuary after graduating from UW-Stevens Point in 1971 and immediately joined the Green Bay Bird Club. They started their first official public weekly bird walks in 1972. Since then they have chaired the Northeast Wisconsin Audubon Chap-

Figure 1. Ty and Ida Baumann

ter field trips and managed the Green Bay area birding hotline.

From 1983 to the present they have monitored and submitted Wisconsin Checklist reports for Bay Beach Sanctuary, and since 1986 (23 years) they have run a BBS route. In 2002 they added the task of Field Trip chairs for the Bay Area Bird Club.

During their years at Bay Beach Wildlife Santuary their over-arching management goals for the Sanctuary have been managing the acreage to present the greatest diversity of habitat to attract the greatest diversity of birdlife and wildlife species, goals that have been most successfully reached and mantained. They also continue to mentor other communities, agencies, and individuals on birdlife, waterfowl, and wildlife related issues. WSO is pleased to extend its thanks for all their efforts on behalf of birds to Ty and Ida Baumann with the presentation of the 2009 Bronze Passenger Pigeon Award.

Silver Passenger Pigeon Awards

The Silver Passenger Pigeon Award is given to individuals who have served the Wisconsin Society for Ornithology in an outstanding and dedicated manner—both in quality and length of service to the Society. Two Silver Passenger Pigeon Awards were presented in 2009.

A 2009 Silver Passenger Pigeon Award was presented to Christine A. Reel (Fig. 2) for her years of service as WSO Bookstore Manager (with her husband, Don), as Treasurer of the organization, and as organizer of special events and conventions.

In 1996, Christine and Don became WSO Bookstore Managers, a position they held until 2002. Shortly after passing on the manager responsibilities, Christine assumed the position of Treasurer of WSO, a position she continues to hold. As Treasurer, she tracks incoming and outgoing funds, and she keeps the Board of Directors and members up to date on the Society's financial position. She also creates and files reports as required by regulatory bodies (IRS and the Wisconsin Department of Revenue), complying with the laws and assuring that WSO maintains its status as a registered nonprofit organization. In addition to the many responsibilities of a Treasurer, she began a policy of using WSO's bank accounts as a conduit for grant funds from nonprofit organizations and foundations to individuals undertaking projects, generally in re-

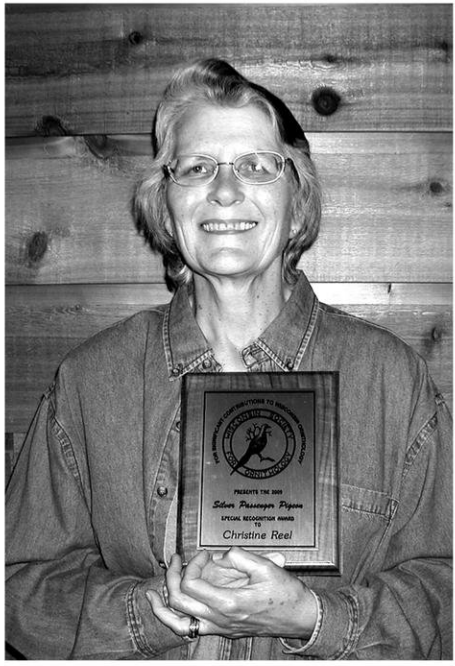


Figure 2. Christine Reel

search and education, that benefit birds.

Through the years of being first a Director and then an Officer of the organization, Christine has held several other positions for WSO, among them:

- Treasurer for the Wisconsin Breeding Bird Atlas following the death of Alex Kailing in 2002;
- Treasurer and member of the planning committee for Midwest Birding Symposium, 2003;
- Treasurer, registrar, and member of the WSO symposium planning committee, 2005 and 2007;
- Treasurer, registrar, and member of the convention planning committee since 2006;
- Distributor of Federal Duck Stamps and reusable plastic holders.
- Preparer of marketing pieces for new items published by WSO (most notably two editions of *Wisconsin's Favorite Bird Haunts* and *Atlas of the Breeding Birds of Wisconsin*).

Christine regularly attends meetings of the WSO Board of Directors, and she has taken on numerous small projects enthusiastically over the years (e.g., updating WSO's bylaws and policies and procedures, updating the speakers bureau and birder contact list, writing publicity handouts, etc.).

WSO is extremely grateful to Christine for stepping up so quickly to fill the position of Treasurer upon the unexpected death of Alex Kailing and greatly appreciates the excellent job she has done in this capacity.

A 2009 Silver Passenger Pigeon Award was presented to Donald J. Reel (Fig. 3) for his years of service as manager of the WSO Bookstore.

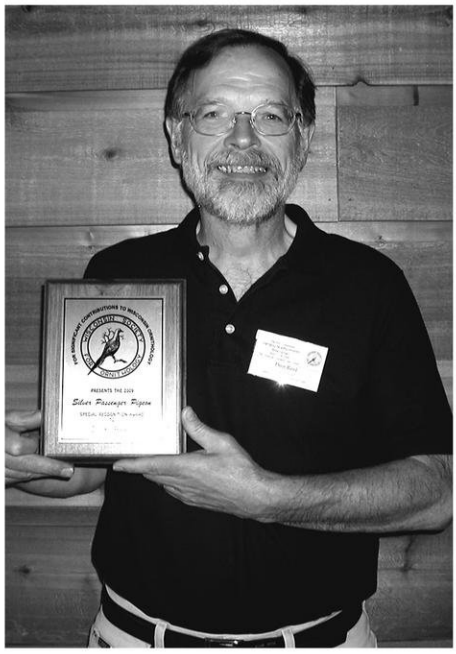


Figure 3. Don Reel

Don initially assumed WSO Bookstore managership with his wife, Christine, in 1996, when the WSO Bookstore was one of the few sources of nature-oriented books and other items. That year, they returned from the Superior convention with a rented van loaded with 80-plus boxes containing a sprawling array of some 1,000 titles. As other sources became readily available (especially online bookstores), Don and Christine gradually scaled the Bookstore back until it offered mainly items directly concerned with birding. During that time, Don developed a relationship with an online vendor, establishing the online portion of the WSO Bookstore to provide members with a source for other materials that returns a profit to WSO. Titles totaled fewer than 100 in 2001,

and by 2002 when they resigned from the position, they had restructured the WSO Bookstore to return to its original focus of distributing items published by WSO. In 2005, Don again took on the position of WSO Bookstore Manager, a position he continued to hold until after the 2009 convention, at which time he resigned.

During Don's tenure as WSO Bookstore Manager, he handled distribution of two new editions of *Wisconsin's Favorite Bird Haunts*, as well as *Atlas of the Breeding Birds of Wisconsin*, the updated *Wisconsin Birds: A Checklist with Graphs* ("Bluebook"), and several updates to *Wisconsin Birds, Field Checklist*. During his years as WSO Bookstore Manager, he faithfully attended meetings of the Board of Directors and routinely offered items for sale at conventions and other WSO-sponsored events.

It is with grateful appreciation that the WSO presented a Silver Passenger Pigeon Award to Donald Reel. We wish him much enjoyment of his "retirement" from WSO duties.

Report of the Annual Meeting 23 May 2009

Minutes of the 2009 Annual Business Meeting of the Wisconsin Society for Ornithology

A pounding gavel brought the 70th Annual Meeting of the Wisconsin Society for Ornithology to order at 12:10 pm, on 23 May 2009, at The Lodge at Crooked Lake, in Siren, Wisconsin.

Scott Baughman, chair of WSO Convention Committee, thanked people for coming to meet at the WSO 2009 Annual Convention, saying he's chairman of the Convention Committee in name only because committee members "come to my house to meet. It's a labor of love from all of us—Jeff Baughman, Charlie Geiger, Marilyn Bontly, Joan Sommer, Christine Reel, and Margaret Brasser, with Jim Hoefler, Andy Paulios, and Christine Zimmerman in 2009." Chairperson Baughman extended thanks right away to retiring Margaret Brasser, who was asked to stand for thanks and applause. Brasser said her committee work had been easy and fun and she got lots of assistance. "If you want to be on a good committee, join this one," Brasser said. Baughman said that Margaret's position would be filled by Penny Fish, "whose enthusiasm is contagious."

Baughman said that the WSO Convention Committee wants at least two more new members, for both Marilyn Bontly and Joan Sommer are stepping aside after 2009. Bontly and Sommer have been in charge of the speaker segment of convention preparation.

Thanks also, said Baughman, to 2009 WSO Annual Convention field trip leaders—Tom Schultz, Jeff Baughman, Andy Paulios, Daryl Tessen—and thanks to all of you for coming to an out-of-the-way place but a good area to bird. There were seventeen cars in the morning's car pool, he said, and the birds cooperated. Thank you and welcome.

Baughman gave the gavel to WSO President Jesse Peterson for the annual business meeting.

President Peterson opened proceedings by saying that the Society needs volunteers to read through minutes of the annual meeting, which appear in the winter issue of *The Passenger Pigeon*. It's a ten- to fifteen-minute job, he said, and we need two or three people. Chuck Heikkinen, Carl Schwartz, and J. J. Goodwin volunteered to be readers.

Peterson asked WSO Treasurer Christine Reel to summarize the Society's annual financial report. Read through the financial report at your convenience, Reel said. She wanted to stress three points. First, the Society is "close within reason" to meeting its policy mandate to cover costs of membership services with annual dues payments. With the combined help of Mary Uttech and the printed version

of *The Badger Birder* and Jesse Peterson and the on-line *eBirder*, WSO can say we balance, almost. Second, donations from WSO members have been outstanding. Third, thanks to your generosity WSO has almost $82,000 to cover general operating expenses; the remainder, totaling over $477,000, comprises WSO's restricted revenue, administered grant funds, and other nonbudget projects. Yet donations are always welcome, Reel repeated, to provide such benefits as *The Passenger Pigeon* with color photos, which Bettie Harriman spearheaded.

Thank you, Christine Reel, for all the work you do, Peterson said; it's both well organized and well reported.

The reports of Officers followed:

Jesse Peterson, WSO President, opened with recognition for Mary Donald, 94, who passed away earlier this year, as a life-long avid birder, a good supporter of WSO, and holder of the Silver Passenger Pigeon Award, and the first recipient of the Sam Robbins Lifetime Achievement Award. Her "In Memoriam," by Roger Sundell, is in the recent *Passenger Pigeon* (71: 191–195).

Thank you, WSO Board of Directors, said Peterson, for all you put in throughout the year. It's lots of work, and you make my job easy as President.

Tom Schultz, Vice President, announced that the 71st WSO Annual Convention will team with the Door Islands Bird Fest. Dates are not certain yet, he said; we'll see how it falls.

Bettie Harriman, co-Editor, said that she has nothing to add to the written report (*see "Annual Report"*). She implores birders to turn in seasonal records, welcomes the wonderful photos that have been contributed, and appreciates all support given to WSO in any form.

The reports of Committee Chairs:

Daryl Tessen, Awards, said that WSO annual awards would be presented this evening at the banquet.

Mary Uttech, *The Badger Birder*, compiled eleven issues of *The Badger Birder* over 2008–2009.

Don Reel, WSO Bookstore, had nothing to add to his written report (*see "Annual Report"*).

Bill Mueller, American Bird Conservancy and Conservation, conveyed nothing to add to his written report (*see "Annual Report"*).

Mariette Nowak, Education, said that as Education chair she contributes to WSO by promoting planting for birds with talking and writing [Mariette Nowak, *Birdscaping in the Midwest*, Photographer, Jack Bartholmai (Itchy Cat Press, June 2007)]. This is a great time to plant, she said; plant native—common plants for common birds.

Tom Schultz, Field Trips co-chair, said that the WSO/WDNR/USFWS Kirtland's Warbler field trip was next Saturday, 30 May 2009, a week from today. Information for the trip, including a map, should be with participants by this date.

Jesse Peterson, Membership, said that his written report gives the last ten years of WSO membership information. The graph illustrates the steady-to-downward trend in membership totals. Get the WSO word out, Peterson said: tell friends, look at the WSO website (http://www.wsobirds.org/), pick up information brochures at the registration table. The Society would like to get the number of new members back up from 40 to 95.

The *eBirder* is a good and faster way to get birder information at less cost to WSO, said Peterson. Send me (Peterson.Jesse@tds.net) your request. We now have about 280 *eBirder* subscribers, and each subscription saves the Society $6–7. It's a big help.

Jim Frank, Records, reported that the Wisconsin official list now stands at 431 species (*See "Annual Report"*).

Sheldon Cooper, Research, had no written report. Treasurer Christine Reel added that WSO had recently approved a large-grants program (supplementing small grants of $500 maximum), comprising $5,000 to $10,000 depending on the project proposal and the funds available. Next year we will have more information, she said.

Lennie Lichter, Website (*see "Annual Report"*). President Jesse Peterson said that the website had been updated a little, with electronic forms for recording bird sightings now "up and running, we think."

Barb Duerksen, Youth Education, urged WSO birders to "get kids outdoors."

Daryl Tessen, Nominating Committee (with Noel Cutright and Chris West), suggested that "when you've got quality . . . ," saying that all present officers were willing to continue in their positions. We need a motion, he said, for Jesse Peterson to serve as WSO President; Tom Schultz, as Vice President; Christine Reel, as Treasurer; Jane Dennis, as Secretary; and Bettie and Neil Harriman, as editors. It was so moved, and seconded. As there were no additional nominees, the motion carried by voice vote.

New Business:

WSO has terminated its Slide Sale and Loan Committee, chaired by Steve Lang, in response to Lang's request and report that he had received no requests for the past five years. In closing the committee, Lang donated 80-slide educational sets to the WSO Education Committee and other Board members and transferred Slide/Loan accumulated funds to the WSO general funds account. Upon reconnoiter, however, Lang discovered that he retains some 200 individual slides, an assortment that he compiled, with help from the Cornell Lab of Ornithology, to complete the holding of Wisconsin birds. Lang offers these slides, free (with postage added) to any interested individual, organization, or school. Please contact Steve Lang at the address/phone number listed at the back of *The Passenger Pigeon* [Stephen J. Lang, 5613 Commanche Way, Madison, WI 53704, 608-249-5684].

The 70th annual business meeting of the Wisconsin Society for Ornithology closed at 12:40 pm.

Jane Dennis, Secretary

Financial Report—2008

WSO's Policies (adopted April 2005) state that annual dues payments shall cover the cost of membership services—that is, all costs in providing *The Badger Birder*, *The Passenger Pigeon* and other direct membership benefits, and the costs associated with maintaining membership and soliciting renewals and new members. The breakdown of those costs during 2008 is as follows:

Pigeon—	
Expenses for 2008 (4 issues)—(not including color printing)	19,941
Birder—	
Expenses for 2008 (11 issues)	$6,055
Total usual publication costs	$25,996
Membership expenses	$1,647
Total cost of membership services	**$27,643**
Membership dues received	$26,255
Library subscriptions/back issues	$911
Total membership-related income	**$27,166**

The costs of membership services and membership income were roughly equal during 2008. Once again, this achievement is in large part thanks to Membership Chair Jesse Peterson and *Birder* Editor Mary Uttech for making electronic delivery of *The Badger Birder* possible, and the some 300 members who save the organization printing and mailing costs by receiving it.

Your generous support of WSO continues, and donations during 2008 amounted to $14,640, including $6,288 in support of Honey Creek, our Baraboo Hills nature preserve. It is owing to your generosity that WSO currently is in a solid financial position. **Thank You**!

Of the total assets as of 31 December 2008 ($477,583—see **III. WSO Balance Sheet as of 31 December**), the amount available to cover general operating expenses is $81,892; the remainder is restricted. All of the amounts listed as received in **Restricted Revenue** in Part I, as well as in **II. Grants Administered by WSO and Other Non-budget Projects** must be reserved for their intended uses.

Financial Summary

I. WSO Statement of Revenue and Expenses, 2006–2008

Unrestricted Revenue*	**2008**	**2007**	**2006**
Birder Adv/Back Issues	687	325	505
Convention	2,636	1,149	1,980
Donations-Unrestricted	2,148	5,488	4,196
Hotline	3	37	478
Other		1,206	
Interest/Dividends	5,115	9,045	5,964
Membership Dues	26,255	27,530	25,650
Pigeon-Subscr/Back Issues	911	1,101	444
Color Fund	80	1,180	1,105
WSO Pubs/Bookstore	1,388	2,562	618
Miscellaneous	540	67	951
Total Unrestricted Revenue	**39,763**	**49,690**	**41,891**

* Unrestricted Revenue includes some amounts that are actually restricted as to use (e.g., donations for hotline and color printing in the *Pigeon*). They are included here because your Board of Directors is committed to covering costs incurred by these programs from general operating funds if donations do not completely cover the costs.

Expenses (Unrestr Rev)	**2008**	**2007**	**2006**
Administration	1,798	2,146	119
Awards	177	239	49
Bird Reports Coord		91	115
Birder	6,055	6,703	6,697
Field Trips		31	52
Historian	22		
Hotline	444	419	270
Membership	1,647	1,118	1,069
Pigeon	19,941	25,749	18,081
Color Printing	2,922	2,439	1,864
Publicity	69	30	
Records	136	170	154
Schol/Grants	3,900	3,500	2,375
Treasurer	450	500	518
Website	232	69	
WSO Pubs/Bookstore	403	534	995
Haunts 5th Edition		100	
Printing	237		563
Youth			11
Miscellaneous**	125	1,633	1,450
Total Expenses (Unrestr Rev)	**38,558**	**45,471**	**34,382**

** Miscellaneous support during 2008:
American Bird Conservancy, $100
Washington Island Festival, $25

Restricted Revenue	**2008**	**2007**	**2006**
Duck Stamps	1,150	1,953	
Endowment-Donations	362	819	174
Interest/Div/Cap Gains	4,312	5,085	2,673
Life/Patron Memberships	1,825	3,875	3,600
Honey Creek-Donations	1,541	934	1,121
Bandathon	4,747	5,320	4,966
Schol/Grants-Donations	241	506	441
Haunts Sales (4th ed)***		241	2,375
Interest/Dividends	1,497	2,651	2,383
Youth Schol/Grants Dons	195	546	406
WSO Pubs-Atlas Sales	2,698	12,483	56,116
Haunts (5th ed.)	3,331		
Other Donations	1,210	308.00	750
Total Restricted Revenue	**23,109**	**34,721**	**75,005**

*** Loan to finance 4th edition of *Wisconsin's Favorite Bird Haunts* fully repaid; *Haunts* sales income after 2007 considered unrestricted income.

Expenses (Restr Rev)	**2008**	**2007**	**2006**
Duck Stamps	1,107	2,105	
Honey Creek	2,564	2,401	4,387
WSO Pubs-Atlas Sales	674	1,554	2,346
Haunts (5th ed.)	15,158		
Youth Schol/Grants	300	1,098	250
Miscellaneous	1,095	308	750
Total Expenses (Restr Rev)	**20,898**	**7,466**	**7,733**

II. Grants Administered by WSO and Other Non-budget Projects, 2006–2008

Grants	2008	2007	2006
Atlas Mgment Income	894	1,433	1,942
Atlas Mgment Expenses		–918	–76,020
Bird Mentor Kits Income	1,576	751	3,901
Bird Mentor Kits Expenses	–1,423	–2,254	–3,828
Convention Income	9,481	8,797	6,297
Convention Expenses	–10,981	–7,297	–6,297
Costa Rica Trip Income	23,000	7,190	
Costa Rica Trip Expenses	–10,075	–24,760	
Flying WILD Income	1,349	825	1,000
Flying WILD Expenses	–708	–1,610	
Grant-Bald Eagle Income	921	802	4,558
Grant-Bald Eagle Expenses	–892	–831	–4,558
Grant-1 Bird 2 Habitats Inc		100	
Grant-1 Bird 2 Habitats Exp			
Grant-Osprey Income			
Grant-Osprey Expenses	–1,968	–100	–5,674
Grant-WNV Tracking Income	1,071	1,044	2,884
Grant-WNV Tracking Expenses	–954	–1,160	–2,884
IBA Quad 30 Campaign Income		620	3,052
IBA Quad 30 Camp Expenses	–620	–13,281	
SRSEF Income	943	1,837	970
SRSEF Expenses			–473
WBCI IBA Coord Income			21,549
WBCI IBA Coord Expenses			–20,765
WBCI IBA Migr Surv Income			7,056
WBCI IBA Migr Surv Expenses	–2,100		–1,215
WBCI Website Income	7,500		
WBCI Website Expenses	–7,500		
Workshop-GWWA 2005 Income			
Workshop-GWWA 2005 Expenses		–703	–350
WSO/WBCI Symp Income		7,628	755
WSO/WBCI Symp Expenses	–7,902	–461	
Misc Income	3,510		525
Misc Expenses	–3,510	–615	–1,032

III. WSO Balance Sheet as of 31 December 2008

	2008	2007	2006
General Funds	218,290	213,053	211,541
Bookstore	5,190	4,602	5,006
Slides	1,447	1,440	1,363
Endowment	74,862	88,684	79,139
Atlas Mgment	29,511	28,616	28,101
Schol/Grants	54,825	55,629	50,866
SRSEF	29,543	28,600	26,763
Inventory-WSO Pubs	30,355	34,635	48,713
Slides	1,665	1,665	1,665
Fixed Assets (Equip/Land)	31,895	31,895	31,895
Total	**477,583**	**488,819**	**485,052**

Annual Reports of Officers

President—Jesse Peterson—No written report.

Vice President—Tom Schultz—At the last two board meetings we discussed the possibility of periodically linking our annual convention with one of the regional bird festivals. Although the arrangements (and even the dates) have not been firmed up, it appears that the 2010 WSO Convention with be held in conjunction with the Door Islands Bird Festival, which takes place on Washington Island. Watch for more information to be announced as the details are ironed out.

Treasurer—Christine Reel—See Financial Report, page 1.

Secretary—Jane Dennis—No written report.

Editors, The Passenger Pigeon—Bettie and Neil Harriman—Four issues of *The Passenger Pigeon* were published in 2008, all were Volume 70. The final Spring Season report from Karl David was written in 2008 and appeared in Vol. 71(1) in early 2009. We extend our thanks and gratitude to Karl for covering this busy season so well for seven years. The new Spring compilers will be Marilyn Bontly with the assistance of Andrea Symczak. The Editors greatly appreciate their willingness to take on this task for WSO and look forward to working with them.

The new compiler for the Winter Season, Kay Kavanagh, had her first report in Vol. 70(4) and it was a smooth transition from the experienced compiler to the novice. Well done, Kay.

You will see reports from the new Summer (Randy Hoffman) and Fall (Ted Gostomski) compilers in 2009.

In addition to the seasonal compilers, the Editors wish to extend their thanks to Randy Hoffman, Bird Reports Coordinator and author of Lessons From the Seasons; David Kuecherer, Art Editor; and Jim Frank, Records Committee Chair, who writes the quarterly reports from this WSO committee, for their support in the production of the 2008 issues of *The Passenger Pigeon.*

And just as we did last year, we remind the membership that more art work and bird photographs are needed by the Art Editor. We know many of you are taking photos of the birds you find in Wisconsin; please remember to share your best shots with David Kuecherer for use in the *Pigeon.* The color photographs of birds are the most mentioned feature in our journal, so please continue to support the *Pigeon* color fund. And finally, Editors NEVER have enough articles, so please continue to send us articles.

Annual Reports of Committee Chairs

Awards—Daryl Tessen—Awards to be announced at convention banquet. [*See article on pages 445–448.*]

The Badger Birder Editor—Mary Uttech—Completed 11 issues of the newsletter.

Bird Reports Coordinator—Randy Hoffman—No written report.

Bookstore—Don Reel—The traditional WSO Bookstore continues to provide an outlet for WSO-published

materials to WSO members and resale outlets (nature centers, bird stores, ABA, etc.). In addition, it sells those items, along with selected items that were donated to WSO with the understanding that all proceeds revert to WSO, to WSO members.

In February 2009, the Bookstore accepted delivery of 1,499 copies of the fifth edition (copyright 2009) of *Wisconsin's Favorite Bird Haunts.* Through mid-May 2009, 156 copies were sold (21 of them at the book signing/art show in early May). Sales of *Atlas of the Breeding Birds of Wisconsin* (2006) totaled 158 books between January 2008 and mid-May 2009.

The Bookstore appeared at Convention 2008 (sales of $340). Sales for calendar year 2008 totaled $5,500 (85 orders were filled).

The Bookstore continues its relationship with the online Nature Mall. During 2008, 12 orders for a total of $500 resulted in earnings of $50 for WSO. You can find the link to the Nature Mall on the Bookstore page of the WSO website. Remember that WSO gets credit for your order **only** when you go through the link on the WSO website, so please use that link every time you visit the Nature Mall. If your organization is interested in promoting this relationship on your website, you must provide a link to the Bookstore page of the WSO website, and not a link directly to the Nature Mall.

Prepayment for orders is now required. You can find a link to a pdf file of the order form on the Bookstore page of the WSO website. You may also contact Don Reel, Bookstore Manager (262-547-6128), for a copy of the form.

Please contact me with any concerns or requests you have about the WSO Bookstore.

Conservation—Bill Mueller—Since the 2008 WSO Convention, I have attended WSO Board of Directors meetings and completed the following WSO Conservation Chair activities:

1) Provided comments to USDA Wildlife Services on cormorant control in Wisconsin;
2) Signed on to 5 topic letters through the American Bird Conservancy, representing WSO, on the following topics:
   a) Northwest Forest harvest policies that affect birds of old-growth forests;
   b) Tower collisions and birds;
   c) The pesticide carbofuran and related bird deaths; and
   d) Act for Songbirds;
3) Provided conservation, population, and related information to WSO members through twice-weekly (or more frequent) posts to Wisbirdn, the WI birding listserv, approx. 150 times;
4) Represented WSO on the Wisconsin Bird Conservation Initiative *Issues Committee;*
5) Co-authored a WBCI Issues Committee "white paper" on climate change and birds (submitted in April 2009);
6) Continued work on additional WBCI *Issues Committee* "white papers" on other topics, including Mute Swans, pesticides, and ethics and birding;
7) Started a Purple Martin conservation initiative in southeastern Wisconsin, providing information, housing, and assistance to prospective martin "landlords"; and,

8) Provided presentations on bird conservation topics to groups throughout southeastern Wisconsin.

Education—Mariette Nowak—No written report.

Field Trips—Jeff Baughman and Tom Schultz—Field trips have continued to be popular and well-attended for the most part—weather permitting. We unfortunately had to cancel one field trip this spring (Eagles) due to inclement weather, but the Wausau Bird Club was still going to try to hold theirs at the same time and location that day, so one hopes anyone from WSO who braved the weather to attend had the option to join up with their group. The WSO Costa Rica birding tour was this spring from 15–27 March, with the trip report recently published in the May *Badger Birder*. We had a number of cancellations this year (for a variety of reasons), but the tour has been extremely popular and we were fortunately able to keep the trip full by working from our long waiting list.

Once again, our thanks go out to Fred Lesher, Joe Schaufenbuel, and Gerry Janz for leading some of the field trip outings for us—specifically the Lansing Loop and to the Mead Wildlife Area.

Historian—Noel Cutright—During the last year, I continued to receive items from WSO members, former WSO members, and the families of WSO members for incorporation into the files located in the WSO room at UW-Green Bay.

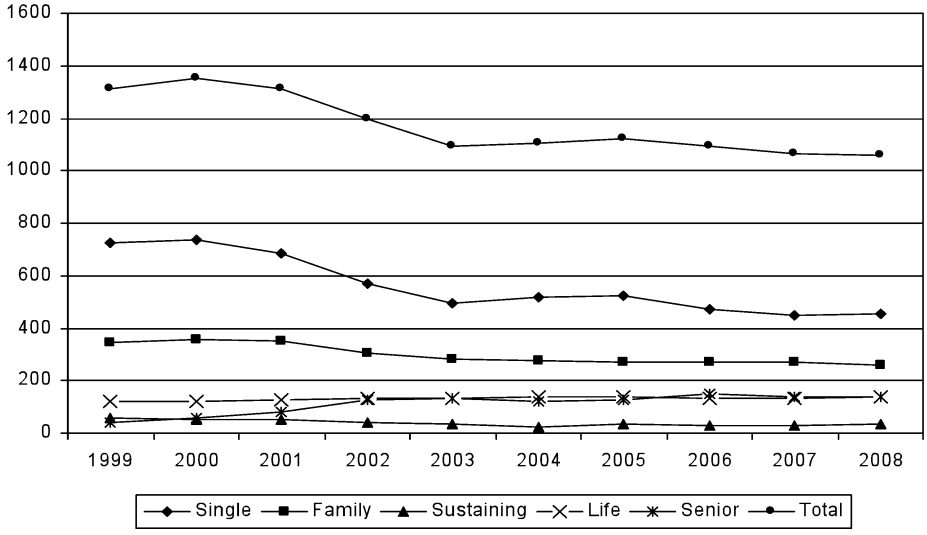
My biggest effort has been devoted to transporting more than **20** boxes and grocery bags full of bird-related material from Mary Donald's residence. She saved almost all correspondence, many field trip checklists, journals, magazines, newsletters, some books, maps, and miscellaneous items, and I transported all of this from her house to mine. It was interesting to read letters that I sent to Mary more than 20 years ago. Obviously, much of the paper was recycled when I made a first review of all of the material. I've retained all of the checklists and anything else that I thought should be deposited in the WSO archives or given to a more appropriate party. What remains? There are still about 8 full boxes of "stuff" for which a decision is needed as to a "final" resting place.

Membership—Jesse Peterson—In 2008, membership remained more or less steady relative to the previous five years. The renewal rate was slightly below recent years but we experienced a nice increase in the number of new members in 2008.

Total Membership at 2008 Calendar Year End

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	
Single	726	738	685	572	494	520	521	473	450	454
Family	344	358	351	304	282	275	268	268	272	261
Sustaining	56	50	49	40	34	25	32	30	28	33
Life (1 of 4)	9	10	3	2	0	2	3	2	1	2
Life (2 of 4)				2	2	0	1	3	2	1
Life (3 of 4)				1	2	1	0	1	3	2
Life-Couple (1 of 4)	0	0	0	0	2	1	0	1	0	0
Life-Couple (2 of 4)				0	0	2	1	0	1	0
Life-Couple (3 of 4)				0	0	0	2	1	0	1
Life	119	120	126	130	129	133	134	135	134	136
Life-Couple	0	0	0	0	1	3	3	10	10	10
Patron	5	6	6	7	7	8	8	7	7	7
Senior	41	60	79	126	131	120	129	147	141	137
Student			6	6	7	11	15	12	11	11
Honorary Life	3	3	4	2	2	2	2	2	2	2
Board	12	5	4	3	3	3	3	3	3	3
Total	**1315**	**1350**	**1313**	**1195**	**1096**	**1106**	**1122**	**1095**	**1065**	**1160**
New Members					48	95	74	43	34	46

Membership Trends 1999–2008



Membership activities and accomplishments throughout the past year include:

- Continued oversight of printing and mailing of *The Badger Birder*;
- Continued oversight of distribution of the *e-Badger Birder*, the electronic version of the WSO newsletter, to approximately 280 subscribers;
- Monitored and managed the publication exchange program;

- Managed the annual membership renewal activity;
- Managed the new member "on-boarding" activity including sending out a "Welcome" packet to each new member; and,
- Updated and printed new informational brochures.

Publicity—Sandy (Ursula) Petersen—I assisted with publicizing the WSO Convention via the bird nets and newspapers located in the area of the convention as well as the state papers. I coordinated the presentation of WSO's display at several events, also conducted the Washington Island Bird Festival with WSO as one of the co-supporters. Thank you.

Records—Jim Frank—The Records Committee processed the following documentation for the 2008 seasons:

	Records Examined	Accepted	Re-jected
Winter 2008	35	22	13
Spring 2008	48	31	17
Summer 2008	29	23	6
Fall 2008	31	18	13
Total	**143**	**94**	**49**

Additions to the state list:
Virginia's Warbler (hypothetical)
Streak-backed Oriole
Pyrrhuloxia
Wisconsin official list now stands at 431 species.

Research—Sheldon Cooper—No written report.

Scholarships and Grants—Janine Polk—WSO Scholarships, to provide additional support for work that is being carried out and funded through another sponsor, were awarded to:

- Medhavi Ambardar, Milwaukee, "The effects of temperature and food abundance on breeding season length in single-brooded and double-brooded birds";
- Scott R. Loss, St. Paul, MN, "Invasions of non-native earthworms in hardwood forests of northern Wisconsin: Impacts on native ground-nesting songbirds"; and,
- William E. Stout, Oconomowoc, "An urban Cooper's Hawk population and nesting study in the metropolitan Milwaukee area."

Website—Lennie Lichter—During the year 2008 I continued to maintain the WSO website as follows:

- Made changes linked from the Birding News page;
- Added a Bird Photo page and a Rare Bird Photo page using the beautiful photographs donated by our members;
- Updated Field Trip info and Festival and Convention info whenever I received requests to do so;
- Working with Bob Domagalski, formatted three of his lists (Rare Wisconsin Birds, Rare Mid-continent Birds, and WSO Record Arrival/Departure Dates) for the website;
- Added "Birding for Kids" links;
- Updated the Statewide and Madison Hotline Reports on a regular basis; and,
- Added a page to illustrate John Idzikowski's Migration Tips for using Nexrad.
- After much trial and error, the electronic forms for retrieving bird

sightings are now up and running and Christmas Bird Count dates and compiler contact information is now edited well before the CBC season. These are linked from the Research page.
- Bird and Nature Organization information is updated on the Education page as requested.
- The bookstore page was updated with new data for 2009.

Working with my employer (Toro) I was able to get a cash grant for WSO in recognition for my volunteer work on the website.

Youth Education—Barbara Duerksen— Youth Education Coordinator activities of the past year:
- Held outdoor bird conservation workshops as a part of the Richland County Conservation Field Days for sixth graders, with 155 students attending. Additional presentations to high school biology students in fall and for Earth Day;
- Continued development of the Bird Conservation Mentor Program, a joint project of WSO and WBCI to introduce students and others to the common birds of Wisconsin and their habitats, with the use of a kit containing a scope, tripod, binoculars, field guides, a CD, and curriculum materials. New kits went to Brown and Sauk Counties, and another kit purchase is in process for the Madison Audubon Society. Total number of kits to date is 22—21 in Wisconsin and one to Puerto Rico;
- Gave a presentation on birding for youth at the Leigh Yawkey Woodson Art Museum in Wausau as part of their program for the annual Birds in Art exhibition; and,
- Attended WSO board meetings and education committee meetings of WBCI, the Wisconsin Bird Conservation Initiative.

Claudine F. Long
10 September 1938–6 May 2009

Claudine F. Long (Fig. 1), from Stevens Point and Washington Island, Wisconsin, died suddenly on Wednesday, 6 May 2009, at home. She was a lover of nature, a scholar, and after working in chemistry had turned to ornithology; birds were important in her life. I knew her as an employee at the University of Wisconsin-Stevens Point, where she worked in four different departments, mostly in Biology and Chemistry. She collaborated in some of my research work, when I was at UW-SP.

She was born in her aunt's home in Nevada, Missouri, to the late Claude and Esther (Carr) Lowder, but raised in Iola, Kansas, and Lamar, Missouri. Claudine was educated at the University of Missouri, Pittsburg State University in Kansas (BS in industrial chemistry, with credentials in secondary education) and the University of Illinois (MS in zoology and serology). She took several courses at UW-SP after she arrived in Wisconsin with her husband Charles Long, and their first son Alan, in 1966.

She taught science in junior high school at Lawrence, Kansas, and was acclaimed for her work with an honors program. She became a research assistant at Illinois and served as an instructor/senior lecturer at UWSP. She earned National Science Foundation scholarships at Pittsburg State University and won the Steenbock Award in Ornithology (1993) while teaching at UW-SP.

Claudine was an outstanding scholar in both languages and science. In science, she authored over twenty publications in peer-reviewed journals and other venues. Her research covered various aspects of zoology, especially avian studies. A particular noteworthy project that I know about was in my own area of interest, a collaboration with me, her husband, Dr. Charles A. Long (UW-SP Professor Emeritus of Biology), and Dr. Guoping Zhang (Associate Professor of Physics at Indiana State University). It was a mathematical analysis using Newtonian mechanics to establish the origin of avian flight. In this controversial area of biology, the thesis she helped establish was that birds learned to fly by flutter-gliding from trees and cliffs as opposed to running and leaping off the ground. This work was published in top-tier journals including the *Journal of Theoretical Biology* and was well received by scientists around the world. Our collaboration continued after I moved to the University of Missouri-St. Louis with Dr. Bernard J. Feldman (Associate Dean of Engineering and Professor of Physics at UMSL) joining, where we published an article in the pedagogical journal called *The Physics Teacher.*

Figure 1. Claudine Long, Malaysia, leader of University of Wisconsin-Stevens Point semester abroad to Malaysia, Thailand, and Singapore in 1983.

Her earliest publications were notes on mammals studied with her husband in the Smithsonian, but her research at the University of Illinois was the study of antibodies and antigens of houseflies in their evolving resistance to insecticides, such as Lindane, Dieldrin, and DDT. She used serological techniques to identify the proteins involved. Later she turned to a new love: birds.

As a member of the Wisconsin Society for Ornithology, Claudine worked directly with real birds, writing up several observations in the *Passenger Pigeon* and *Wilson Bulletin*. She also observed how parrots with clipped wings could attain flight. She worked with fledglings fluttering out of the nest and noted how this fluttering helps diminish their impact when falling to the ground. She reported on and studied several examples of bird behavior and ecology, including reproduction in Herring Gulls on Washington Island.

Some of her most recent work was on the learning behavior of her African Grey Parrot, named Merlin. This remarkable bird converses with people according to the situation. For example, in a thunder and wind storm at night, his cage covered, it muttered, "What's going on here, I don't know." It plays soccer, and when one scores a goal past him, he turns and says, while watching you closely, "That's one." In the evening, "Like to go downstairs and have a walnut?" Or later, "Come on Charles, go to bed, go to your perch, good-bye." Merlin has been observed often at Christmas time, when shelled almonds are available in the stores, to manufacture and use a "tool," where the "tools" have accumulated by the dozens. It opens an almond and tongues out the inside, then it carries the shell to a water dish and dips the shell under water. Using this "dipper," it climbs up several rungs to a high perch, and then he sips the water daintily from the shell. This was never suggested in any way to this bird.

From her wide travels, the late John Anderson featured Claudine's work in his first essay of the book *A County*

Sampler entitled "No Ordinary Summer for Some." It detailed her research on Atlantic Manx Shearwaters nesting on the Isle of Rhum in the Hebrides, Scotland (Fig. 2). This was an earthwatch project she shared with Robert Furness. She was proud of her Scottish descent and visited Scotland twice.

Claudine and her husband both studied Kansas prairie ecology with Theodore Sperry, the father of prairie restoration at Madison, and her home in Stevens Point received the Backyard Habitat Award for 1986 from the local Aldo Leopold Chapter of the National Audubon Society. She enjoyed field studies and ornithology with Vincent Heig and John C. Johnson, Jr., attended many conferences and field expeditions around the world with her husband and children, partied with the late Fred and Fran Hamerstrom over the years, and rubbed elbows with great bird artists at the annual exhibitions at the Leigh Yawkey Woodson Art Museum in Wausau, Wisconsin. These included Tom Schultz, Roger Tory Peterson (and his wife Virginia), Owen Gromme, Jerry Gadamus, Virgil Beck, and Nancy Howe, whose prints are framed on the walls of Claudine's homes. Not many bird lovers have so scrutinized and criticized the innumerable works included in her complete runs of the *Passenger Pigeon* (from 1939) and the *Catalogs of the Birds in Art Exhibitions* of the Leigh Yawkey Woodson Art Museum (from 1976). She was overjoyed when the *Passenger Pigeon* began publishing color plates. Claudine treasured her membership in the Leigh Yawkey Woodson Art Museum, along with the Wisconsin Society for Ornithology.

Claudine was the first female teacher of biology at UW-SP and one of the first women to teach chemistry there. For several years she also supervised and coordinated the programs of student teachers majoring in education and in biology. She was an outstanding university teacher, and in addition taught junior high school at both P. J. Jacobs and Ben Franklin in Stevens Point.

Claudine led two wonderful semester abroad programs in natural resources for UW-SP. These included trips to Australia, Fiji, and New Zealand in 1997, and she led a class to London, Singapore, Malaysia, and Thailand in 1983. One of the interesting sights was a bird singing contest of birds caged on tall poles, in Kota Bharu in Malaysia. In the South Pacific, in addition to the usual university teaching abroad and managing of the logistics and interrelations of students, she enthusiastically introduced students to additional experiences with birds and mammals in their habitats. For example, she arranged to fund and lead an extended trip to the outback and another to Milford Sound, New Zealand, and took the entire group to the incredible Sydney Zoo. There and in the outback and rainforests, and along the beaches, they could see such curious animals as the duck-billed platypus, echidnas, koalas, kangaroos and several allies, sea lions, camels, and incredible bird life, such as the emus and rare parrots. In New Zealand, she participated in nesting studies on penguins. She fed four colorful species of parrots at her feeder at Macquarie University in Australia. During my time at UW-SP, I had the pleasure of introducing Claudine and Charles Long to the remark-

Figure 2. Claudine Long banding Manx Shearwaters on Isle of Rhum, Hebrides, Scotland in 1985.

able Diana and Roger Gammon of Dunmore Lang College (part of Macquarie University), where UW-SP has maintained a long educational relationship. (Diana was principal at Dunmore Lang, and Roger, besides teaching ecology, was head of the Australian Nuclear Program).

For her superb accomplishments in all aspects of academe, Claudine was listed in Who's Who in American Men and Women in Science. In addition to her prowess as an academic teacher and scholar, Claudine was a tremendous human being who cared deeply for everyone she knew, as well as for the birds and other animals with which she worked. My wife and I found her enthusiastic and always positive; she never gossiped and was always smiling and very efficient. Perhaps she got some of that from teaching chemistry.

Claudine married UW-SP Professor Emeritus Charles A. Long in Lawrence, Kansas on 28 August 1960. Survivors include her husband, Charles; sons, Alan (Monica) and John (Brenda); five grandchildren, Tyler, Stephanie, Abby, Colin and Adam; and a sister, LaVern.

Publications by Claudine F. Long

Claudine F. Long. 1964. Serological characterization of five strains of insecticide resistant and susceptible houseflies, *Musca domestica*. Thesis, University of Illinois, Urbana, 68 pages and 30 plates.

Claudine F. Long. 1964. Geographic records of the swift fox, *Vulpes velox*. Southwestern Naturalist 9(2): 108 (with C. A. Long).

Claudine F. Long. 1964. Range extension of the gray fox, *Urocyon cinereoargenteus*. Southwestern Naturalist 9(2): 108–109 (with C. A. Long).

Claudine F. Long. 1965. Serological characterization of five strains of insecticide-resistant and susceptible houseflies. Journal of Economic Entomology, 1070–1074, and 7 figures (first author with Paul H. Silverman).

Claudine F. Long. 1965. Experiences with adopted woodchucks. Defenders of Wildlife News, 40(2): 59–61, 1 figure (with Charles A. Long).

Claudine F. Long. 1965. Dental abnormalities in North American badgers, genus *Taxidea*. Transactions of the Kansas Academy of Science 68: 145–155, 6 figures (with C. A. Long).

Claudine F. Long. 1965. Another Brazilian free-tailed bat from northern Kansas. Journal of Mammalogy 46: 518, August (with C. A. Long).

Claudine F. Long. 1965. Reproduction in the Dickcissel. Wilson Bulletin

77(3): 251–256, September (with C. A. Long, J. Knops, and D. H. Matulionis).

Claudine F. Long. 1968. Comments on reproduction of the Common Grackle in central Illinois. Wilson Bulletin 80: 493–494 (with C. A. Long).

Claudine F. Long. 1971. Common Grackles prey on big brown bat. Wilson Bulletin, 83: 196.

Claudine F. Long. 1987. Bald Eagle preys on American Crow. Passenger Pigeon 49: 137. (with C. A. Long and J. E. Long).

Claudine F. Long. 1991. Caching of foods in Corvidae and an example of caching fish by the American Crow. Passenger Pigeon 52: 403 (with C. A. Long).

Claudine F. Long. 1993. Some effects of land use on avian diversity in Wisconsin's oak-pine savanna and riparian forest. Passenger Pigeon 54: 125–136 (with C. A. Long). Also: Abstract: 53rd Annual Convention, Wisconsin Society for Ornithology, 29–31 May 1992. Northland College, Ashland, Wisconsin, p. 10.

Claudine F. Long. 1995. An art nouveau collection of Charles and Claudine Long. Published by the Department of Biology and Museum, University of Wisconsin, Stevens Point.

A Preview of the Art Nouveau exhibition, for June 30–July 30, 1997, New Visions Art Gallery, Marshfield Clinic, Marshfield, Wisconsin. 4 color plates with some black and white illustrations. 27 pages of text. Presented at a special lecture at Marshfield. A copy is preserved in the UW-SP Library.

Claudine F. Long. 2000. Abstract. Physical theory and the origin of flight, with particular reference to bats (with G. P. Zhang, T. F. George, and C. A. Long). American Society of Mammalogists, 17–21 June 2000, Durham, N.H. Abstract No. 246.

Claudine F. Long. 2000. Bullheads deposited in birdbath by American Crow. Passenger Pigeon 61: 456–457 (with C. A. Long).

Claudine F. Long. 2003. Physical theory, origin of flight, and a synthesis proposed for birds. Journal of Theoretical Biology 224: 9–26 (with C. A. Long, G. P. Zhang, and T. F. George).

Claudine F. Long. 2004. Air resistance and the origin of vertebrate flight. Proceedings of the Mathematical Biology and Ecology International Conference, Biomathematics in Medicine and Ecology. Korfu, Greece. World Scientific and Engineering Academy and Society. August 17–19, 6 pages (with C. A. Long, G. P. Zhang, and T. F. George).

Claudine F. Long. 2004. Air resistance and the origin of vertebrate flight. World Scientific and Engineering Academy and Society, Transactions on biology and biomedicine. Issue 3, Vol. 1, p. 305–310 (with C. A. Long, G. P. Zhang, and T. F. George).

Claudine F. Long. 2006. Origin of bird flight: a physics view. The Physics Teacher 44(6): 351–353 (with B. Feldman, G. P. Zhang, T. F. George, and C. A. Long).

Claudine also contributed enormously to the extensive work on mammals by her husband, including the following: his dissertation *The Wild*

Mammals of Wyoming, 1965; the treatise on *The Badgers of the World*, 1983 (with Carl A. Killingley, now deceased, with whom she did field studies on badgers at night, in Buckinghamshire); and another treatise on *The Wild Mammals of Wisconsin* which her husband recently published in 2008. In addition, she also co-authored chemistry student guides for qualitative analysis while teaching in the Department of Chemistry.

Thomas F. George
University of Missouri–St. Louis
chancellor@umsl.edu

About the Artists

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

Ryan Brady actively birds in the Ashland area, taking many photographs of what he observes. He obtained his B.S. degree from Northland College and his M.S. in Raptor Biology from Boise State University in Idaho. He is currently employed by the WDNR.

Seth Cutright is a graduate of Concordia University with an art major. He enjoys photographing and sketching birds, in addition to counting them. In the fall of 2008 he was the primary raptor counter at Cape May, New Jersey; in the spring of 2009 he was the Raptor/Migration counter at Sandy Hook, NJ (both under the auspecies of New Jersey Audubon); and for the fall of 2009 he will be counting hawks along Lake Erie in Michigan.

David Kuecherer, Art Editor for this journal, taught art at the high school level for 30 years prior to teaching several years at UW-Oshkosh. He currently combines his artistic talents with his love of birdwatching to paint birds. His work has been exhibited in "Bird in Art" and other shows in Wisconsin.

Dennis Malueg is a dedicated amateur bird and wildlife photographer who travels Wisconsin in search of his subjects. He also works from his own "studio"—his backyard, prairie, and forest in Waushara County.

Black-legged Kittiwake painted *by Seth Cutright.*

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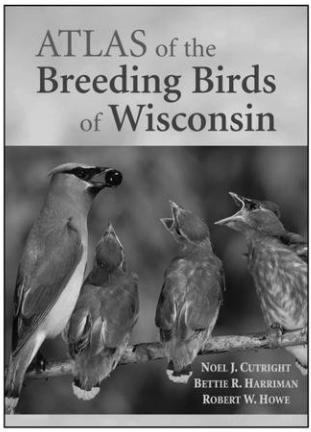

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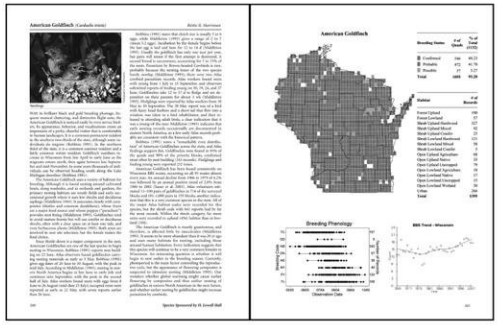

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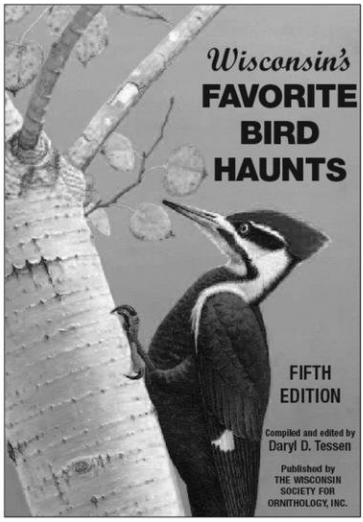

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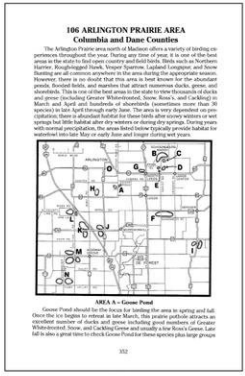
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