The passenger pigeon. Vol. 56, No. 2 Summer 1994

Madison, Wis.: Wisconsin Society for Ornithology, Summer 1994

THE PASSENGER PIGEON
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JOURNAL OF THE WISCONSIN SOCIETY FOR ORNITHOLOGY

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The Passenger Pigeon (ISSN 0031-2703) is published quarterly (Spring, Summer, Fall, and Winter) by The Wisconsin Society for Ornithology, W330 N8275 West Shore Drive, Hartland, WI 53029. Subscription rates are: Individual, $12 per year; Family, $15 per year; Sustaining, $25 per year; Library, $18 per year; Life (Single), $300; Life (Couple), $400; and Patron, $750. Back issues may be obtained for $5.00 each. Send back issue and change of address requests to Memberships, W330 N8275 West Shore Drive, Hartland, WI 53029.

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

WSO Activities

Recently, an individual wrote to me expressing frustration with the common names given to several species of birds that frequent Wisconsin. He was especially concerned with the name given to the Red-bellied Woodpecker since it obviously doesn't have a red belly, and wondered what the Society could do to rectify such an obvious misnomer. The problem unfortunately lies with the use of common names where such peculiarities often appear. If the Latinized names were used, the problem would at least be less obvious. It would be nice, however, if the Society could address such problems directly, but our role to the birders of Wisconsin lies outside this arena. If the Society could correct such irritations in birding, it certainly would, and it would have taken care of it long ago. But, what the Society can do, and has done quite well is provide support to your birding interests through its sponsorship of field trips, publications, book store offerings, birding hot line and the collective support of its membership.

An area that the Society has begun to explore, is to create a speakers bureau of Society members that have presentations which they are willing to give to groups and organizations around the state. Bettie Harriman has initiated the effort which will bring the experience of our talented members to a larger and hopefully appreciative audience. This effort isn't just an altruistic gesture, but one that will help to make others aware of this organization and the opportunities it offers to those that are interested in Wisconsin's avifauna. And, with interest, support will surely follow.

One message that seems to be quite clear is that Wisconsin birders love to travel, and to explore the limits of the birding experience beyond the borders of the state. The present alternatives, beyond asking Daryl where the best place to bird, has been principally through organized travel agencies. It is beginning to appear that with the support that exists for such birding adventures, the Society might better organize and run its own birding trips, where the experience of the members could be used more efficiently. Although this is just conversation among the interested at this time, Wisconsin has shown its support for birding beyond the borders of the state, and with the proven leaders within the Society, very exciting trips offered by WSO could become a reality. The Board will carefully examine the advantages and pitfalls of such Society involvement. If the sports fans of Wisconsin can fill the Rose Bowl, the birders of Wisconsin can certainly fill a bus or a boat! And we are not the easy touch that Jay Leno implied in his humorous monologue of "Wisconsin bumpkins" who readily shell out $350 for missing tickets.

The finishing touches on the Honey Creek Committee are being made at this writing. It has taken a long time to translate the vision of Honey Creek into reality. With the completion of the Honey Creek Master Plan and the imple-

mentation of the plan with the guidance of the Committee, the reality is taking shape. But, much work certainly remains. It is hoped that the members will find interest in the project and lend their support in time and energy to achieve Honey Creek's potential.

The highlights of the Societies activities each year is the Annual Convention. This year, the Ned Holister Bird Club served as the host organization at Beloit College. Both lived up to their fine reputations and provided those who attended with great memories and exciting birding experiences. Through the talented and dedicated hard work of Sheryl Austin, Carol Owens and the many others of the Ned Holister Bird Club, the Convention was by every measure a tremendous success. The Society sends a very warm and most heart felt thanks for all their support to the Society and hopes that they feel rewarded in their accomplishment.

As a pleasant way to conclude this letter, we extend a warm hand of congratulation to the recipients of this years WSO Awards and Scholarships. This is our way of recognizing the commitment to and the interest in the study of birds where the past success and hard work are held as examples to others. May this recognition serve to honor these special individuals and be an inspiration to us all.

President

Wisconsin Record Extreme Dates

The author has compiled early and late extreme arrival and departure dates for Wisconsin's migrant birds. Further, he notes dates three or more weeks outside any other extreme date for the species as an exceptional record.

by Robert C. Domagalski

As a field observer, I have found birds in Wisconsin on dates which were outside their normal migration period. At such times I have wondered how close to a record extreme date my sighting may have been. It was not until the 1991 publication of Samuel D. Robbins' *Wisconsin Birdlife* that I had easy access to Wisconsin record extreme dates. Even with this book I have still wished for an up-to-date and easy to use reference that simply listed the birds and their extreme dates of occurrence in the State. Such a reference has not been attempted since Robbins' article, "Extreme Arrival and Departure Dates" in the Fall 1970 issue of *The Passenger Pigeon* (Vol. 32, No. 3).

Following is a list of 258 species and two additional hybrids of Wisconsin birds listing their early and late extreme dates as they currently stand, including county of sighting and observer. I have included all documented species of Wisconsin birds as they are listed in *Wisconsin Birds: A Checklist With Migration Graphs* (Barger, Robbins, Temple). I have not included species listed as extinct, extirpated or hypothetical. In addition, I have included eight species that have been documented for the state since the 1988 edition of *Wisconsin Birds.* For the sake of simplicity, I have excluded all permanent resident species and all those which have been recorded in every month of the year so as to make extreme dates meaningless.

In both his article "Extreme Arrival and Departure Dates" and his book *Wisconsin Birdlife,* Robbins has made a distinction between "extreme arrival and departure dates" and "exceptional dates." Exceptional dates are defined as "whenever an arrival or departure record was three weeks or more earlier or later than any other state record for a particular species, the isolated occurrence was listed" (*Pass. Pigeon* 32:85). I have attempted to keep Robbins' distinction intact for the more common species by making an effort to note all dates that are three weeks or more before or after any other date. Birds that have the status of being accidental or casual often

have gaps between dates. I have made little effort to highlight these gaps.

Many times record dates are matched by other observers in subsequent years. For the sake of space, these subsequent observations are excluded. Also, when a number of observers share a record, usually one name is selected to appear, hopefully that of the person most responsible for the find. In the case of some extreme *late* dates, in which I have enough information to make the distinction, I have used the name of the birder who initially recorded the extreme late bird sighting.

Further subjectivity enters the list when one attempts to decide what sightings to accept as record dates. For records previous to the late 1980's, I have relied on the judgment of Robbins and have used his extreme dates in *Wisconsin Birdlife* for consistency. For more recent dates, I have used the Seasonal Field Notes of *The Passenger Pigeon* and thus left the judgement to the Associate Editor, the Seasonal Field Note Compilers, and the WSO Records Committee. I note that these records are based on the sightings of that narrow spectrum of Wisconsin birders who fill out WSO Seasonal Reports. Many of Wisconsin's most active and seasoned birders do not bother with this process. Many birders keep personal records of their own Wisconsin extreme record dates and if gathered, these would certainly shatter several currently recorded extreme dates. In his 1970 article, Robbins urged birders to submit their record dates to make the state records more accurate. He received few responses. I intend to keep updating the present list and will include old records that are sent to me with sufficient documentation.

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Table 1. Extreme arrival and departure dates and exceptional dates of observation of birds in Wisconsin.

Species		Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer exceptional observation, if noted
Red-throated Loon		03,20 1976, Ozaukee Eric J. Epstein	01,01 1972, Bayfield Albert J. Roy
		—one winter record, beyond Jan. 1st, since 1940	Jan. 7 to May 1, 1987, Manitowoc Charles Sontag
Pacific Loon	Sp.	04,16 1983, Ozaukee Daryl D. Tessen	06,11 1977, Douglas Craig A. Faanes
	Fl.	09,25 1975, Burnett Alfred H. Grewe	11,04 1984, Douglas Robbye J. Johnson
Red-necked Grebe		03,05 1962, Dane William L. Hilsenhoff	12,22 1983, Dane Allen K. Shea
Eared Grebe		04,02 1978, Milwaukee Mary F. Donald	12,19 1953, Dane Mary A. Walker
		—one Feb. record	02,12 1959, Rock Earl L. Loyster

(continued)

Table 1. *Continued*

Species		Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
Western Grebe		09,09 1983, St. Croix Bruce R. Bacon	08,05 1986, Dodge Scott R. Swengel
		—one late Aug. record	08,26 1975, Burnett Lymore Long
		—one nesting record	Present with young until Aug. 24, 1990, Winnebago Thomas Ziebell
American White Pelican		03,09 1866 the "Madison Democrat"	11,24 1958, Dane Roy H. Lound
		—one winter record	Dec. 1, 1992 to Jan. 2, 1993, Brown Ty & Ida Baumann
Brown Pelican		04,22 1978, Door Mark Rispens	08,01 1943, Dane A. William Schorger
Anhinga	Sp.	04,07 1966, Milwaukee Dorothy & Russell Bednarek	05,22 1983, Wood Don G. Follen, Sr.
	Fl.	—one fall record	09,27 1980, Sheboygan Daniel D. Berger Helmut C. Mueller
Magnificent Frigatebird		—two records	
		08,? 1880, Milwaukee	09,28 1988, Douglas Donald Swedberg
American Bittern		03,17 1968, Waushara Irma Chipman	02,28 1965, Wood Don G. Follen, Sr.
		—one over wintering record	1990–1991, Dodge Robert C. Domagalski
Least Bittern		04,17 1952, Dodge Owen J. Gromme	12,15 1982, Monroe Kim Mello
Great Egret		03,11 1955, Waukesha S. Paul Jones	11,27 1979, Oconto Thomas C. Erdman
		—one winter record	Dec. 24, 1980 to Jan. 18, 1981, Trempealeau William Drazkowski
Snowy Egret		04,16 1976, Fond du Lac Rockne A. Knuth	10,01 1982, Brown William J. Cowart
		—one Nov. record	11,03 1943, Milwaukee Richard A. Bub
Little Blue Heron		03,28 1985, Milwaukee John H. Idzikowski	09,27 1948, Crawford Margarette E. Morse
Tricolored Heron		04,23 1976, LaCrosse Howard F. Young	09,20 1955, Dodge Mr. & Mrs. Walter Peirce

(continued)

Table 1. *Continued*

Species		Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
Cattle Egret		04,03 1977, Ashland Richard L. Verch	11,30 1981, Bayfield Scott Hulse
Green Heron		03,26 1988, Dane Steven Thiessen	11,25 1964, Racine Robert E. Fiehweg
		—one winter record	12,20 1979, Adams Don G. Follen, Sr.
Yellow-crowned Night-Heron		03,22 1991, Marathon Daniel Belter	11,28 1965, Racine Edward B. Prins
		—one winter record	12,29 1971, Portage Frederick M. Baumgartner
Glossy Ibis		05,08 1962, Dodge Martha Lound	11,19 1989, Trempealeau Charles A. Kemper Janine L. Polk
White-faced Ibis		04,23 1987, Dodge Jeffrey L. Baughman	06,02 1992, Milwaukee Robert C. Domagalski
Wood Stork	Sp.	05,03 1973, Fond du Lac Fran Brown	05,15 1981, Sawyer Frank Pratt
	Fl.	—two fall records both by Philo R. Hoy	09, ? 1852, Milwaukee 09, ? 1868, Racine
Fulvous Whistling-Duck		—one record	
		07,03 1989, Columbia William Mueller Dennis Schwartz	07,04 1989, Columbia Thomas R. Schultz
Greater White-fronted Goose	Sp.	02,20 1994, Columbia Philip Ashman Ellen Hansen	06,04 1982, Columbia Mark S. Peterson
	Fl.	09,13 1978, Brown Randy M. Hoffman	12,03 1968, Green Lake James R. March
Ross' Goose	Sp.	03,04 1990, Columbia William L. Hilsenhoff Daryl D. Tessen	04,16 1994, Columbia Samuel D. Robbins
	Fl.	10,18 1992, Columbia Philip Ashman	11,17 1992, Dodge H. Lowell Hall
Brant	Sp.	02,21 1981, Dane Jeffrey L. Baughman	05,30 1954, Sheboygan Myron H. Reichwaldt
	Fl.	10,02 1954, Burnett Norman R. Stone	12,07 1985, Manitowoc Charles R. Sontag
White-cheeked Pintail		—one record	09,21 1929, Winnebago Catherine Clark
Cinnamon Teal	Sp.	03,29 1991, Jefferson William J. Cowart	05,26 1987, Dane Frank N. Freese

(continued)

Table 1. *Continued*

Species		Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
		—one summer record	06,19 1981, Dodge Richard Biss
	Fl.	09,07 1971, Ozaukee Thomas Bintz	12,29 1968, Walworth Clarence O. Palmquist
Eurasian Wigeon	Sp.	03,08 1992, Dane Susan Shea	06,12 1934, Fond du Lac Gifford Breitenstein
	Fl.	10,21 1988, Dunn Janine L. Polk	12,03 1967, Racine Louise W. Erickson
Common Eider	Sp.	03,24 1960, Manitowoc John Kraupa	03,26 1960, Manitowoc Bernard N. Brouchoud
	Fl.	11,10 1968, Burnett James. R. March	11,11 1940, Burnett Norman R. Stone
King Eider	Sp.	03,21 1936, Milwaukee Irving J. Perkins	06,16 1937, Milwaukee H. Meyer
	Fl.	09,21 1953, Ozaukee Richard F. Gordon	01,07 1910, Milwaukee H. Russell
Oldsquaw		09,25 1985, Bayfield Scott R. Swengel	06,14 1947, Milwaukee Gordon H. Orians
		—one July record	07,18 1988, Manitowoc Daryl D. Tessen
Black Scoter	Sp.	02,27 1978, Manitowoc Brother Columban	07,06 1981, Door James B. Hale
		—one exceptional summer record	08,27 1986, Ozaukee William J. Cowart
	Fl.	09, 21 1991, Ozaukee Daryl D. Tessen	01,11 1992, Racine Mark J. Korducki
		—two Feb. records	Jan. 12 to Feb. 28, 1941, Mil. C.N. Mason & W.J. Mueller
			02,04 1975, Kenosha Louise W. Erickson
Surf Scoter	Sp.	02,27 1993, Milwaukee Mark J. Korducki	06,19 1985, Manitowoc Charles R. Sontag
	Fl.	09,12 1971, Racine Daryl D. Tessen	01,02 1984, Ozaukee Dennis K. Gustafson
		—one exceptional winter record	Jan. 6–25, 1992, Milwaukee Brian J. Boldt
White-winged Scoter		09,15 1940, Milwaukee Walter J. Mueller	07,07 1963, Manitowoc John Kraupa
		—three Aug. records 08,09 1983, Ashland, Sumner W. Matteson 08,12 1975, Burnett, James O. Evrard 08,18 1974, Milwaukee, Edward W. Peartree	

(continued)

Table 1. *Continued*

Species		Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
Barrow's Goldeneye		12,15 1990, Ozaukee Thomas M. Uttech	05,12 1959, Bayfield David A. Bratley
Black Vulture		07,02 1951, Milwaukee Mr. Kotraba	early Nov. 1925, Rock Charles R. Naeser
Turkey Vulture		02,20 1993, Racine Paul Sunby	01,28 1976, Marinette Leroy J. Lintereur
Osprey		03,07 1941, Iowa Al G. Koppenhaver	01,02 1983, Fond du Lac William K. Volkert
		—one late Jan. record	01, 27 1989, Trempealeau Thomas Hunter
American Swallow-tailed Kite	Sp.	05,12 1992, Marquette Rebecca Ratering	07,26 1901, Ashland Richard Blome
	Fl.	—one fall record	09,12 1949, Dunn Helmer M. Mattison
White-tailed Kite (Black-shouldered)		05,15 1987, Wood Dennis Seevers	09,09 1989, Burnett Pat Savage
Mississippi Kite	Sp.	04,26 1990, Portage Richard A. Hunt	06,25 1985, Dane John T. Emlen G. William Foster
	Fl.	09,06 1981, Grant Hal Koller	09,20 1988, Ozaukee William J. Cowart
Broad-winged Hawk		03,06 1976, Walworth Daryl D. Tessen	11,18 1991, Burnett James E. Hoefler
		—one winter record	12,16 1978, Ozaukee James E. Grootematt
Swainson's Hawk		03,16 1982, Wood Don G. Follen, Sr.	11,19 1953, Brown Edwin D. Cleary
		—one winter record	12,14 1961, Dane Louise W. Erickson
Ferruginous Hawk	Sp.	04,12 1979, Wood Don G. Follen, Sr.	05,04 1991, Pepin Randy M. Hoffman
		—one summer record	06,24 1965, Door Louise W. Erickson
	Fl.	09,24 1978, St. Croix Craig A. Faanes	02,26 1950, Green Gordon H. Orians
Golden Eagle		08,16 1975, Outagamie Daryl D. Tessen	05,24 1987, Sauk Scott R. Swengel
Gyrfalcon		09,30 1980, Ashland Sumner W. Matteson	04,23 1972, Milwaukee Mary F. Donald
Yellow Rail		—one March record	03,29 1950, Dane Douglas H. Pimlott
		04,19 1993, Milwaukee Scott Diehl	10,18 1908, Waukesha Charles Brandler

(continued)

Table 1. *Continued*

Species		Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
King Rail		04,02 1963, Dodge John Kurtz	12,19 1906, Dodge Will E. Snyder
Virginia Rail		03,23 1991, Marathon Paul Risch	02,15 1980, Waukesha Spencer Stehno
Sora		03,16 1979, Jefferson Karen Etter Hale	02,12 1983, Dane Randy M. Hoffman
Purple Gallinule	Sp.	04,18 1976, Sheboygan Harold Koopmann	06,16 1977, Milwaukee Don Hanbury
	Fl.	09,24 1939, Grant Ben Logan	10,16 1993, Milwaukee Scott Diehl
Common Moorhen		03,23 1962, Dodge John Kurtz	11,08 1970, Milwaukee Dorothy Juneau
		—one winter record	01, ? 1940, Racine Edward B. Prins
Sandhill Crane		02,06 1990, Walworth Pat Parsons	01,26 1968, Jefferson Keith Kreger
		—one over wintering record	1981–1982, Brown Edwin D. Cleary
Black-bellied Plover	Sp.	04,12 1992, Dodge Mark J. Korducki	06,27 1987, Douglas Robbye J. Johnson
	Fl.	07,07 1973, Marathon Randy M. Hoffman	12,10 1963, Racine Robert E. Fiehweg
American Golden Plover	Sp.	03,17 1992, Dunn Janine L. Polk	06,22 1994, Dane Ellen Hansen
		—one mid-summer record	June 13 to July 9, 1992, Dodge Kay L. Burcar Robert C. Domagalski
	Fl.	07,03 1981, Dodge Dennis K. Gustafson	11,30 1992, Dane Ellen Hansen
Snowy Plover		04,20 1991, Manitowoc Jerry & Karen Smith	06,04 1967, Douglas Richard F. Bernard Marvin Granlund
Semipalmated Plover	Sp.	03,23 1986, Ozaukee Winnie Woodmansee	06,27 1977, St. Croix Craig A. Faanes
		—one over summering record	1991, Manitowoc Charles R. Sontag
	Fl.	06,28 1984, Manitowoc Charles R. Sontag	11,14 1972, LaCrosse Jerome R. Rosso
Piping Plover		04,21 1970, Douglas Thomas R. Staupe	10,29 1976, Marinette Daryl D. Tessen

(continued)

Table 1. *Continued*

Species		Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
Black-necked Stilt	Sp.	04, ? 1847, Racine Philo R. Hoy	05,25 1987, Columbia William J. Cowart
	Fl.	08,11 1986, Dodge Darrell Haugen	10,11 1991, Milwaukee Brian J. Boldt
American Avocet		04,15 1991, Milwaukee Roger H. Sundell	11,02 1991, Manitowoc Charles R. Sontag
Greater Yellowlegs		03,04 1979, Dane Louise W. Erickson	11,25 1967, Waukesha John E. Bielefeldt
Lesser Yellowlegs		03,17 1977, LaCrosse Jerome R. Rosso	11,30 1984, LaCrosse Frederick Z. Lesher
Solitary Sandpiper	Sp.	03,23 1988, Milwaukee Marilyn Bontly	06,10 1975, Milwaukee Elmer L. Basten
	Fl.	06,11 1974, Milwaukee Elmer W. Strehlow	11,24 1946, Racine Edward B. Prins
Willet		04,14 1986, Dunn Janine L. Polk	10,27 1987, Bayfield Richard L. Verch
Spotted Sandpiper		03,24 1939, Winnebago J. Harwood Evans	11,27 1984, Manitowoc Charles R. Sontag
		—one winter record	01,01 1966, Rock Thomas L. Ashman Jonathan Wilde
Upland Sandpiper		03,28 1948, Brown Alice Weber	10,13 1963, Racine Bill Weber
Whimbrel	Sp.	05,08 1972, Ozaukee Mary F. Donald	06,20 1963, Douglas Richard F. Bernard
		—one over summering record	1976, Brown Thomas C. Erdman
	Fl.	07,20 1939, Sheboygan Earl L. Loyster	11,02 1979, Oconto Thomas C. Erdman
Long-billed Curlew		04,17 1868, Milwaukee Albert Busjaeger	07,06 1975, Brown Thomas C. Erdman
Hudsonian Godwit	Sp.	04,18 1990, Eau Claire Janine L. Polk	06,12 1934, Fond du Lac Irving J. Perkins
		—one over summering record	1976, Brown Thomas C. Erdman
	Fl.	07,21 1988, Manitowoc Charles R. Sontag	11,01 1850, Racine Philo R. Hoy
Marbled Godwit	Sp.	04,13 1972, Ozaukee Thomas Bintz	06,24 1985, Dodge Darrell Haugen
	Fl.	07,03 1992, Dodge Robert C. Domagalski	11,24 1957, Sheboygan Daniel D. Berger
Ruddy Turnstone		04,16 1982, Ashland Richard L. Verch	11,16 1991, Sheboygan David & Margaret Brasser

(continued)

Table 1. *Continued*

Species		Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
Black Turnstone		—one record	
		05,22 1971, Winnebago Robert Pritash	05,25 1971, Winnebago Thomas S. Underwood
Red Knot		05,05 1976, Dane William L. Hilsenhoff	11,17 1940, Milwaukee Walter J. Mueller
		—one winter record	Dec. 11, 1948 to Jan. 9, 1949, Milwaukee Helmut C. Mueller
Sanderling		04,20 1982, Milwaukee William J. Cowart	12,12 1964, Racine Bill Weber
Semipalmated Sandpiper		03,28 1964, Racine Bill Weber	12,28 1968, Racine Louise W. Erickson
Western Sandpiper	Sp.	05,02 1975, St. Croix Craig A. Faanes	06,22 1971, Marinette Samuel D. Robbins
	Fl.	07,15 1964, Racine Bill Weber	11,07 1959, Milwaukee Harold A. Bauers
Least Sandpiper		04,04 1940, Racine Hans Zell	11,17 1974, Dane Philip Ashman
White-rumped Sandpiper		04,14 1974, St. Croix Craig A. Faanes	11,26 1992, Milwaukee Mark J. Korducki
Baird's Sandpiper		04,14 1974, St. Croix Craig A. Faanes	12,01 1989, Eau Claire Janine L. Polk
Pectoral Sandpiper		03,05 1986, Dane Steven Thiessen	11,28 1973, Vernon Jerome R. Rosso
		—one winter record	12,18 1976, LaCrosse Frederick Z. Lesher
Purple Sandpiper	Sp.	05,17 1970, Brown Clara H. Hussong	06,07 1980, Door Roy J. Lukes
	Fl.	10,14 1987, Sheboygan David & Margaret Brasser	03,28 1992, Sheboygan David & Margaret Brasser
Dunlin		04,02 1954, Columbia Howard A. Winkler	12,19 1970, Milwaukee Dennis K. Gustafson
Curlew Sandpiper	Sp.	05,15 1971, Jefferson Philip A. Mallow	05,26 1987, Columbia Randy M. Hoffman Darwin Tiede
	Fl.	—one fall record	09,15 1968, Brown Daryl D. Tessen
Stilt Sandpiper		04,14 1956, Dodge Mabel F. Higgins	11,12 1967, Racine Edward B. Prins
Buff-breasted Sandpiper	Sp.	05,08 1973, Ozaukee Thomas Bintz	05,29 1981, Door Steven Thiessen
	Fl.	07,25 1976, Fond du Lac Rockne A. Knuth	09,25 1980, Dane Randy M. Hoffman

(continued)

Table 1. *Continued*

Species		Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer exceptional observation, if noted
Ruff	Sp.	04,08 1969, Winnebago Eunice Fisher	06,23 1987, Dane Ellen Hansen
	Fl.	07,21 1973, Brown Daryl D. Tessen	10,14 1979, Dodge Thomas De Boor Randy M. Hoffman
Short-billed Dowitcher		04,21 1974, St. Croix Craig A. Faanes	10,17 1991, Manitowoc Charles R. Sontag
Long-billed Dowitcher	Sp.	04,12 1977, Columbia Dennis K. Gustafson	06,08 1985, Dane Daryl D. Tessen
	Fl.	07,06 1975, Brown Thomas C. Erdman	11,08 1975, Dodge Daryl D. Tessen
American Woodcock		02,19 1981, Milwaukee John H. Idzikowski	01,03 1976, Kenosha Ronald R. Hoffman
		—one possible over wintering record	02,08 1947, Dane Daniel Q. Thompson
Wilson's Phalarope		04,12 1990, Burnett James E. Hoefler	11,11 1939, Dodge Charles T. Black
Red-necked Phalarope	Sp.	04,30 1974, St. Croix Craig A. Faanes	06,25 1977, Dodge Dennis K. Gustafson
	Fl.	07,12 1986, Jackson Timothy Risch	12,15 1962, Racine Louise W. Erickson
Red Phalarope		—one summer record	06,04 1877, Jefferson Kumlien & Hollister
		09,03 1891, Jefferson Kumlien & Hollister	11,30, 1993, Milwaukee John H. Idzikowski
Pomarine Jaeger		07,02 1942, Dane George Curran	10,22 1983, Manitowoc Charles R. Sontag
Parasitic Jaeger	Sp.	05,22 1988, Douglas Allen & Susan Shea	05,30 1983, Douglas Daryl D. Tessen
		—one June record	June 24–27, 1986, Manitowoc Charles R. Sontag
	Fl.	07,19 1982, Milwaukee William J. Cowart	12,01 1933, Milwaukee G.J. Farmer
Long-tailed Jaeger	Sp.	—one spring record	05,23 1988, Chippewa Janine L. Polk
	Fl.	08,01 1973, Fond du Lac Rockne A. Knuth	10, ? 1916, Walworth Francis T. Junkin
Laughing Gull		03,03 1991, Milwaukee William J. Cowart James C. Frank	10,11 1991, Milwaukee Kay L. Burcar Robert C. Domagalski

(continued)

Table 1. *Continued*

Species		Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
Franklin's Gull		03,02 1973, LaCrosse Frederick Z. Lesher	12,30 1950, Milwaukee Dixie L. Larkin
		—one Jan. record	01,28 1989, Milwaukee Dennis K. Gustafson
Little Gull		04,20 1986, Manitowoc Randy M. Hoffman Charles R. Sontag 04,20 1986, Ozaukee Jeffrey L. Baughman	12, 19 1981, Milwaukee William J. Cowart Dennis K. Gustafson
		—one over wintering record	1982–1983, Milwaukee
Common Black-headed Gull	Sp.	—one spring record	04,28 1985, Milwaukee John H. Idzikowski
	Fl.	06,07 1983, Manitowoc Charles R. Sontag	12,21 1984, Milwaukee John H. Idzikowski
Mew Gull		10,30 1986, Manitowoc Jeffrey L. Baughman Charles R. Sontag	03,21 1993, Ozaukee Roger H. Sundell
California Gull		—one record	
		11,29 1991, Sheboygan Robert Hughes	12,08 1991, Sheboygan Charles R. Sontag
Thayer's Gull		09,09 1980, Douglas Janine L. Polk	05,25 1992, Douglas Mark S. Peterson
Iceland Gull		08,24 1971, Brown Edwin D. Cleary	06,29 1991, Manitowoc Charles R. Sontag
Lesser Black-backed Gull		10,12 1980, Milwaukee John & Lisa Idzikowski	08,27 1992, Milwaukee Brian J. Boldt
Black-legged Kittiwake	Sp.	03,17 1884, Racine Wells W. Cooke	04,27 1972, Ozaukee Roger H. Sundell
		—one Aug. record	08,17 1993, Milwaukee Susanne M. Brown E. Jay Cashmore
	Fl.	10,19 1974, Ozaukee Daryl D. Tessen	12,29 1984, Ozaukee John H. Idzikowski
		—one Feb. record	Feb. 1–4, 1938, Milwaukee John Schaefer
Sabine's Gull		09,21 1991, Douglas Robbye J. Johnson	10,30 1987, Douglas Robbye J. Johnson
Ivory Gull	Sp.	03,07 1947, Oconto Lyle Follett	04,06 1959, Burnett Norman R. Stone
		—one summer record	07,24 1972, Dodge Daryl D. Tessen
	Fl.	11,28 1991, Milwaukee William J. Cowart	01,10 1989, St. Croix Jerry & Karen Smith

(continued)

Table 1. *Continued*

Species		Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
Caspian Tern		03,26 1979, Winnebago Anita A. Carpenter	11,07 1983, Polk Joseph P. Hudick
		—two exceptionally late records	11,28 1953, Brown Edwin O. Paulson 12,01 1938, Milwaukee Carl L. Strelitzer
Royal Tern		06,18 1985, Manitowoc Jeffrey L. Baughman Thomas R. Schultz	08,03 1988, Milwaukee Paul Sunby
Common Tern		04,01 1956, Jefferson Elizabeth Degner	11,28 1953, Brown Edwin O. Paulson
Arctic Tern	Sp.	04,24 1988, Manitowoc Charles R. Sontag	06,22 1974, Racine Louise W. Erickson
	Fl.	07,16 1988, Manitowoc William Mueller	08,13 1980, Manitowoc Charles R. Sontag
Forster's Tern		04,05 1972, LaCrosse Jerome R. Rosso	11,08 1946, Milwaukee Gordon H. Orians
		—one winter record	01,02 1971, Kenosha Louise W. Erickson
Least Tern		05,28 1987, Dunn Janine Polk 05,28 1987, Columbia Allen & Susan Shea	08,20 1936, Winnebago Francis S. Dayton
Sooty Tern		—one record	09,10 1984, Columbia Peter McCormick
Black Tern		04,01 1956, Rock Melva T. Maxson	10,24 1972, LaCrosse Jerome R. Rosso
Dovekie		—two records	
		01,11 1908, Ozaukee C.W. Beemer	03,03 1949, Monroe Joseph Rice
Ancient Murrelet	Sp.	—one spring record	04,02 1967, Dane Nicki Russos
	Fl.	10,02 1882, Jefferson G.E. Gordon	12,09 1941, Columbia Howard L. Van Ness
Common Ground-Dove		—two records	
		05,22 1966, Washington Ann Maurin	10,15 1973, Milwaukee Mary E. Decker
Black-billed Cuckoo		04,12 1979, Chippewa Charles A. Kemper	10,31 1962, Vernon Viratine E. Weber
Yellow-billed Cuckoo		04,22 1942, Sawyer Karl W. Kahmann	11,19 1970, Milwaukee Mary F. Donald
Groove-billed Ani		08,26 1982, Buffalo Frank N. Freese	11,18 1979, Manitowoc Loraine Hoffman

(continued)

Table 1. *Continued*

Species	Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
Snowy Owl	09,21 1982, Winnebago fide Thomas Ziebell	07,06 1990, Calumet Paula H. Settle
	—one Aug. record	08,17 1963, Vilas Alfred S. Bradford
Northern Hawk-Owl	10,27 1892, Milwaukee R.P. Hanson	04, ? 1885, Dunn J.N. Clark
	—one nesting record	late Nov. 1962 to Aug. 1, 1963, Douglas Bernard F. Klugow
Burrowing Owl Sp.	03,23 1948, Milwaukee Howard & Gordon Orians	06,12 1992, Burnett James E. Hoefler
Fl.	09,05 1981, Portage Jonathan W. Wilde	11,08 1975, Milwaukee Eric J. Epstein
Boreal Owl	10,24 1937, Sheboygan Owen J. Gromme	05,03 1897, Oconto August J. Schoenebeck
	—two August records 08, ? 1872, Jefferson, A. Ludwig Kumlien 08,11 1978, Lincoln/Marathon, Don G. Follen, Sr.	
Common Nighthawk	04,11 1971, Dane Stephen Zitzer	11,07 1929, Oconto Julius Chylinski
Chuck-will's-widow	05,08 1986, Adams Joan E. Humphrey	09,08 1983, Richland Brad Grover
Whip-poor-will	04,09 1981, Trempealeau Kenneth I. Lange	10,20 1980, Ozaukee John H. Idzikowski
Chimney Swift	04,01 1882, Brown S.W. Willard	11,11 1974, Ozaukee Louise W. Erickson 11,11 1974, Sheboygan Daniel D. Berger
Ruby-throated Hummingbird	—one March record	03,21 1978, Vernon Viratine E. Weber
	04,15 1977, Brown Brother Columban	11,28 1971, Buffalo Lorena & Merton Maier
	—one winter record	12,19 1980, Door Roy & Charlotte Lukes
Anna's Hummingbird	—two records	
	08, late 1990, Waukesha David & Susan Schmidt	01,04 1993, Racine William Pinnow
Rufous Hummingbird	06,13 1986, Ozaukee Vincent & Linda Vogt	09,16 1976, Racine Norma B. Struckhoff
Lewis' Woodpecker	—one record	
	01,01 1969, Marinette Marvin Balwit Harold L. Lindberg	04,20 1969, Marinette Harold L. Lindberg

(continued)

Table 1. *Continued*

Species	Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
Olive-sided Flycatcher	04,27 1990, Portage Eric Munson	10,25 1962, Vernon Viratine E. Weber
Eastern Wood-Pewee	04,03 1977, Kenosha Ronald R. Hoffman	10,30 1971, Chippewa Samuel D. Robbins
Yellow-bellied Flycatcher	—three April records 04,01 1967, Milwaukee, Dennis K. Gustafson 04.07 1978, Milwaukee, Elmer W. Strehlow 04,13 1974, Pierce, Craig A. Faanes	
	05,02 1959, Rock Marion K. Stocking	10,06 1958, Sheboygan Helmut C. Mueller
Acadian Flycatcher	05,02 1981, Rock Daryl D. Tessen	09,22 1991, Chippewa Charles A. Kemper
Alder Flycatcher	04,20 1985, Douglas Robbye J. Johnson	09,26 1991, Chippewa Charles A. Kemper
Willow Flycatcher	04,27 1991, Monroe Eric J. Epstein	10,03 1985, Dane Philip Ashman
Least Flycatcher	04,10 1991, Marathon Kenneth & Janice Luepke	10,17 1941, Dunn Irven O. Buss
	—one late fall record	Nov. 13 to Dec. 2, 1962, Dane Thomas L. Ashman
Eastern Phoebe	02,28 1965, Racine B.L. Von Jarchow	01,06 1967, Brown Edwin O. Paulson
Great Crested Flycatcher	04,02 1967, Milwaukee Anna L. Hehn	11,07 1991, Milwaukee Winnie Woodmansee
Western Kingbird	04,12 1974, Brown Ty Baumann	10,20 1979, Iowa Allen K. Shea
Eastern Kingbird	03,23 1986, Crawford Edward Merz	10,17 1964, Marquette Robert E. Fiehweg
Scissor-tailed Flycatcher	04,17 1974, Juneau Robert Peterson	10,24 1980, Rock Gyda Mahlum
Fork-tailed Flycatcher	—two records	
	06,24 1988, Douglas Robbye J. Johnson William Penning	11,16 1978, Columbia Frank N. Freese
Purple Martin	03,13 1936, Dane Norval R. Barger	10,23 1991, Milwaukee Winnie Woodmansee
Tree Swallow	03,02 1973, Milwaukee Mary F. Donald	12,07 1968, Racine Joel Greenberg

(continued)

Table 1. *Continued*

Species	Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
Northern Rough-winged Swallow	04,03 1960, Waukesha Edward W. Peartree	10,29 1969, Fond du Lac Rockne A. Knuth
Bank Swallow	04,02 1960, Brown Edwin D. Cleary	10,27 1983, Dane David Cederstrom
Cliff Swallow	03,30 1981, Eau Claire Janine L. Polk	10,18 1980, Oconto Thomas C. Erdman
Barn Swallow	03,15 1978, Dane Thomas DeBoor	12,16 1993, Dane Kay L. Burcar
Clark's Nutcracker	10,19 1964, Rock John W. Wilde	01,13 1973, Manitowoc Darwin Tiede
Brown-headed Nuthatch	—one record	
	10, late 1971, Milwaukee Lorrie Otto	01, ? 1972, Milwaukee Lorrie Otto
Bewick's Wren	03,25 1948, Sauk Ethal A. Nott	10,21 1939, Racine Edward & George Prins
	—two winter records	Nov. 9 to Dec. 7, 1954, LaCrosse Alvin M. Peterson
		Oct. 6, 1959 to Jan. 23, 1960, Dane William L. Hilsenhoff
House Wren	03,31 1967, Racine Mardie Stoffel	11,15 1979, Milwaukee Dennis K. Gustafson
	—two winter records	12,20 1990, Dane Samuel D. Robbins
		12,23 1939, Racine George Prins
Sedge Wren	03,21 1882, Outagamie F.L. Grundtvig	11,10 1968, Kenosha James Hamers
	—one winter record	12,21 1957, Dane Samuel D. Robbins
Marsh Wren	04,08 1929, Milwaukee Fred L. Hook	01,19 1980, Dane Allen K. Shea
	—three over wintering records 03,05 1922, Dane, A. William Schorger 03,25 1928, Dane, A. William Schorger Feb. 20 to March 7, 1993, Washington, Robert C. Domagalski	
Ruby-crowned Kinglet	03,20 1974, Brown Brother Columban	01,26 1972, Brown Edwin D. Cleary
	—one over wintering record	1992–1993, Outagamie Carlton Mahn
Blue-gray Gnatcatcher	04,05 1986, Dane Philip Ashman	11,18 1975, Dane Joseph J. Hickey

(continued)

Table 1. *Continued*

Species		Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
Mountain Bluebird		10,17 1954, Washburn Carl Peterson	05,20 1989, Waukesha Daryl D. Tessen
Townsend's Solitaire		10,09 1978, Douglas Craig A. Faanes	05,14 1975, LaCrosse Frederick Z. Lesher
Veery		03,30 1968, Dane Evelyn H. Werner	10,27 1980, Brown Brother Columban
		—one Nov. record	11,25 1991, Sheboygan Daniel D. Berger
Gray-cheeked Thrush	Sp.	04,19 1964, Brown Thomas C. Erdman	06,09 1948, Brown Grace Church
	Fl.	07,26 1986, Oneida Paul & Louise Engberg	12,04 1961, Outagamie Daryl D. Tessen
		—two wintering records beyond Dec. 4	12,30 1965, Menominee Reinhold Link March 24–25 1951, Door Fred R. Zimmerman
Swainson's Thrush		04,09 1954, Rock Chester A. Skelly	12,05 1953, Milwaukee Carl P. Frister
		—one Jan. record	01,01 1972, Sauk Norval R. Barger
Wood Thrush		04,04 1978, Door Roy J. Lukes	11,18 1962, Dane L. Barrie Hunt
Varied Thrush		10,22 1980, Dane Elizabeth Zimmerman	04,24 1968, Douglas Bernard F. Klugow
Sage Thrasher		—three records	
	Sp.	05,10 1972, Waukesha John E. Bielefeldt	05,14 1988, Door Kevin Glueckert
	Fl.	12,15 1979, Dane John W. Fitzpatrick	02, ? 1980, Dane
American Pipit	Sp.	03,15 1987, LaFayette Randy M. Hoffman	06,03 1879, Jefferson A. Ludwig Kumlien
		—one July record	07,19 1917, Door Hartley H.T. Jackson
	Fl.	08,24 1973, Oneida Elmer L. Basten	12,14 1948, Milwaukee George W. Treichel
		—one Jan. record	01,28 1942, Dodge Earl T. Mitchell
Bohemian Waxwing		09,06 1992, Ashland Richard L. Verch	05,13 1977, Ashland Richard L. Verch
Phainopepla		—one record	
		10,30 1993, Milwaukee Marvin Calwart	11,08 1993, Milwaukee

(continued)

Table 1. *Continued*

Species	Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
Northern Shrike	09,06 1891, Jefferson Kumlien & Hollister	05,20 1967, Brown Thomas C. Erdman
Loggerhead Shrike	03,09 1973, Taylor James O. Evrard	11,08 1914, Dane Norman D. Betts
	—most extreme of seven winter records 02,15 1978, St. Croix, Ruth E. Faanes 02,15 1986, Walworth, Daryl D. Tessen	
White-eyed Vireo	04,17 1977, Milwaukee John H. Idzikowski	10,25 1987, Ozaukee Randy M. Hoffman
	—one winter record	12,15 1979, Dane William L. Hilsenhoff
Bell's Vireo	04,19 1982, Milwaukee John H. Idzikowski	10,04 1973, Kenosha Louise A. Erickson
Gray Vireo	—one record	10,03 1964, Sheboygan Daniel D. Berger Helmut C. Mueller
Solitary Vireo	04,15 1972, Kenosha Ronald R. Hoffman	11,17 1974, Sheboygan Harold Koopmann
	—one winter record	12,09 1973, Dane G. William Foster
Yellow-throated Vireo	04,10 1977, Columbia Randy M. Hoffman	10,13 1954, Milwaukee Harold A. Bauers
	—two Nov. records	11,03 1991, Milwaukee Kay L. Burcar Robert C. Domagalski 11,28 1971, Milwaukee Jim Barnes
Warbling Vireo	04,02 1979, Dane Randy M. Hoffman	10,18 1968, LaCrosse Frederick Z. Lesher
	—one Nov. record	11,14 1962, Sheboygan Helmut C. Mueller
Philadelphia Vireo Sp.	04,27 1991, Milwaukee William J. Cowart	06,07 1963, Sheboygan Helmut C. Mueller
Fl.	08,04 1954, Chippewa Charles A. Kemper	11,12 1969, Milwaukee Oscar R. Lemke
Red-eyed Vireo	04,03 1986, Milwaukee John H. Idzikowski	11,17 1971, Rock Gyda Mahlum
Blue-winged Warbler	04,19 1979, Milwaukee John H. Idzikowski	11,10 1978, Dane Philip Ashman
Golden-winged Warbler	04,26 1957, Ozaukee Thomas K. Soulen	10,17 1962, Sheboygan Helmut C. Mueller
Brewster's Warbler (hybrid)	05,04 1969, Sauk Kenneth I. Lange	09,21 1967, Manitowoc Bernard N. Brouchard

(continued)

Table 1. *Continued*

Species		Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
Lawrence's Warbler (hybrid)		04,24 1975, Walworth Even Carnes	08,25 1966, Manitowoc Bernard N. Brouchoud
Tennessee Warbler		04,20 1980, Dane Louise A. Erickson	11,24 1975, Milwaukee Eric J. Epstein
Orange-crowned Warbler	Sp.	04,15 1954, Kenosha Mabel F. Higgins	06,18 1974, Winnebago Clark Schultz
	Fl.	07,27 1988, Ashland Richard L. Verch	12,10 1925, Dane Warner Taylor
		—one Jan. record	01,01 1985, Manitowoc Charles R. Sontag
Nashville Warbler		04,18 1972, Milwaukee Mary F. Donald 04,18 1972, Brown Melvin M. Wierzbicki	12,12 1992, Racine Gerald A. DeBoer
Northern Parula		—one March record	03,18 1942, Milwaukee Marion Allen
		04,11 1976, Marinette Harold L. Lindberg	10,14 1967, Dane John T. Emlen
		—one Nov. record	11,25 1972, Iowa Robert S. Ellarson
Yellow Warbler		04,16 1898, Dunn J.N. Clark	10,20 1927, Dane Harry G. Anderson
Chestnut-sided Warbler		04,10 1976, Kenosha Ronald R. Hoffman	10,25 1939, Brown J.B. Kendall
Magnolia Warbler		03,30 1986, Dane Jonathan Sutton	11,11 1957, Winnebago Eunice Fisher
Cape May Warbler		04,23 1985, Dane William L. Hilsenhoff	12,23 1984, Trempealeau Thomas Hunter
Black-throated Blue Warbler		04,24 1984, Milwaukee John H. Idzikowski	11,06 1927, Sheboygan Clarence S. Jung
Black-throated Gray Warbler		—two records	
		09,10 1989, Dodge Carlo A. Balistrieri	12,05 1968, Dane Charles N. Lloyd
Townsend's Warbler		—possible 12,03 (1993, Milwaukee) record, pending review by WSO Records Committee	
Hermit Warbler		—one record	04,27 1982, Outagamie Dan & Paula Minkebige
Black-throated Green Warbler		04,10 1981, Sauk Kenneth I. Lange	11,27 1972, Dane G. William Foster
Blackburnian Warbler		04,25 1987, Columbia Thomas R. Schultz	10,14 1957, Outagamie Nell M. Rogers
Yellow-throated Warbler		04,22 1975, Milwaukee John H. Idzikowski	09,09 1978, Ozaukee Roger H. Sundell

(continued)

Table 1. *Continued*

Species	Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
Pine Warbler	04,09 1985, Shawano Mark S. Peterson	02,03 1991, LaCrosse Frederick Z. Lesher
	—one exceptional winter record	Bird at feeder of Ruth A. Ringelstetter until 02,27 (1994, Dane)
Kirtland's Warbler	05,18 1941, Outagamie Nell M. Rogers	07,24 1978, Jackson Randy Rogers Nancy G. Tilghman
Prairie Warbler	04,25 1949, Dane Samuel D. Robbins	10,08 1947, Milwaukee Dixie L. Larkin
Palm Warbler	03,24 1968, Walworth Jude Lustyk	11,24 1961, Milwaukee Dennis K. Gustafson
Bay-breasted Warbler	04,17 1973, Milwaukee Elmer W. Strehlow	11,12 1974, Chippewa Charles A. Kemper
Blackpoll Warbler	04,25 1957, Waukesha Olive L. Compton	10,31 1982, Winnebago Thomas Ziebell
Cerulean Warbler	04,23 1975, Waukesha John E. Bielefeldt	09,29 1968, Sauk Kenneth I. Lange
	—one Oct. record	10,12 1967, Waukesha Emma Hoffmann
Black-and-white Warbler	04,02 1976, Langlade Bernard Pickering	11,13 1991, Dane Kay L. Burcar
	—one winter record	12,03 1973, Dane G. William Foster
American Redstart	03,20 1946, Milwaukee Lee P. Steven	10,31 1949, Winnebago Eunice Fisher
	—one Nov. record	11,26 1966, Milwaukee Dennis K. Gustafson
Prothonotary Warbler	04,16 1963, Dane Joseph J. Hickey	09,27 1992, Sawyer Richard & Anita Wilson
Worm-eating Warbler	04,03 1976, Milwaukee John Jansen	10,02 1971, Ozaukee Thomas Bintz
Swainson's Warbler	—possible 05,09 (1976, Dane) record, pending review by WSO Records Committee	
Ovenbird	03,31 1950, Dane Robert W. Nero	11,26 1993, Dane Paul Freiberg
	—most extreme of four winter records	01,17 1993, Milwaukee Dennis K. Gustafson Mark K. Korducki
Northern Waterthrush	04,09 1981, Door Roy J. Lukes	11,09 1969, Racine Louise W. Erickson
	—one over wintering record	1982–83, Dane
Louisiana Waterthrush	03,30 1988, Manitowoc Charles R. Sontag	10,20 1934, Dane Harry G. Anderson

(continued)

Table 1. *Continued*

Species	Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
Kentucky Warbler	04,25 1994, Ozaukee Roger H. Sundell	10,07 1961, Rock Gyda Mahlum
	—one Nov. record	11,03, 1979 Milwaukee Don Hanbury
Connecticut Warbler	04,25 1897, Milwaukee H. Russell	10,26 1936, Dane Harry G. Andercon
Mourning Warbler	05,01 1984, Polk Joseph P. Hudick	10,14 1950, Milwaukee Carl P. Frister
Common Yellowthroat	03,31 1986, Milwaukee Winnie Woodmansee	02,20 1987, Waukesha John E. Bielefeldt
Hooded Warbler	—from March 27 to April 8, 1950, four different birds were found in Dane, Manitowoc, Milwaukee, and Sheboygan counties. Outside this unusual spring, the earliest record is April 20	
	04,20 1977, Milwaukee Eric J. Epstein	10,06 1985, Ozaukee William J. Cowart Daryl D. Tessen
Wilson's Warbler	04,20 1977, Milwaukee Dennis K. Gustafson	10,17 1959, Vernon Viratine E. Weber
	—one Nov. record	11,23 1972, LaCrosse Frederick Z. Lesher
Canada Warbler	04,30 1970, Sauk Kenneth I. Lange	10,15 1969, Barron Alta Goff
Yellow-breasted Chat	04,28 1990, Dane Ellen Hansen	11,12 1961, Sheboygan Helmut C. Mueller
Summer Tanager	04,20 1974, Rock Marion K. Stocking	11,24 1993, Milwaukee Mark Petrykowski
Scarlet Tanager	04,13 1974, Waushara Irma Chipman	11,22 1979, Milwaukee Winnie Woodmansee
Western Tanager	04,27 1994, Waukesha Frank Hemauer	08,18 1993, Price Maybelle Hardy
	—one winter record	Jan. 29 to April 30, 1993, Milwaukee Vera B. Karon
Black-headed Grosbeak	09,23 1987, Waukesha Vernon D. Aune	05,29 1983, Douglas Fred Hennessy
	—one July & one Aug. record	07,08 1969, Crawford Ronald Morrein 08,08 1971, Dane Martha Lound
Blue Grosbeak	05,04 1983, Milwaukee Marilyn Bontly Winnie Woodmansee	10,08 1973, Rock John Brakefield

(continued)

Table 1. *Continued*

Species	Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
Lazuli Bunting	05,06 1950, Rock Mattie Anderson	06,03 1980, Marathon Harry M. Tiebout
Indigo Bunting	04,11 1978, LaCrosse Jerome R. Rosso	11,04 1978, Kenosha Ronald R. Hoffman
	—one over wintering record	1986–1987, Calumet Carol Rudy
Painted Bunting Sp.	04,23 1942, Milwaukee Mrs. Thomas E. Bell	05,23 1990, Ozaukee Theodore Bayless
Fl.	08,24 1966, Vilas Gordon Orr	11,27 1983, Door Roy & Charlotte Lukes
Dickcissel	—one March record	03,30 1973, Brown Thomas C. Erdman
	04,24 1975, Rock Thomas R. Ellis	10,31 1966, Milwaukee Mary F. Donald
	—most extreme of four winter records	01,21 1969, Dane Joseph J. Hickey
Green-tailed Towhee	10,10 1992, Bayfield Richard L. Verch	05,16 1991, Milwaukee William J. Cowart
American Tree Sparrow	—three August records 08,08 1982, Ashland, Richard L. Verch 08,12 1963, Marinette, Harold L. Lindberg 08,31 1972, Sheboygan, Eleanor Kuhn	
	09,20 1991, Monroe Dennis Kuecherer	05,31 1976, Ashland Richard L. Verch
	—one summer record	06,07 1982, Ashland Richard L. Verch
Chipping Sparrow	03,03 1990, Jefferson Samuel D. Robbins	01,14 1989, Ozaukee James C. Frank
	—two Feb. records and one over wintering 02,08 1975, Kenosha, Daryl D. Tessen Feb. 12–28 1988, Eau Claire, Janine L. Polk Jan. 10 into March 1981, Marinette, Harold Lindberg	
Clay-colored Sparrow	03,29 1949, Dane Mary A. Walker	11,12 1991, Dane Ellen Hansen
Lark Sparrow	04,09 1988, Sauk Daryl D. Tessen	10,29 1979, Milwaukee Dennis K. Gustafson
	—one winter record	12,19 1987, Racine Gerald A. DeBoer
Black-throated Sparrow	10,30 1979, Milwaukee Gary S. Casper	05, early 1976, Waukesha Gorden Krenn

(continued)

Table 1. *Continued*

Species	Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
Lark Bunting	04,04 1982, Dane Randy M. Hoffman	09,29 1978, Columbia Randy M. Hoffman
	—one winter record	Dec. 17, 1963 to May 20, 1964, Rock E.M. Rumph
Savannah Sparrow	03,11 1977, Waukesha John E. Bielefeldt	01,27 1990, Ozaukee Paul Sunby
	—two Feb. records	02,06 1960, Waukesha John E. Bielefeldt 02,21 1971, Waukesha Dennis K. Gustafson
Baird's Sparrow	04,29 1979, Waushara Randy M. Hoffman	06,26 1982, Manitowoc Bernard N. Brouchoud
Grasshopper Sparrow	04,13 1930, Sheboygan Clarence S. Jung	10,28 1970, Eau Claire Charles A. Kemper
Henslow's Sparrow	03,30 1986, Richland Barbara F. Duerksen	11,29 1954, Racine J. Allan Simpson
	—one winter record	12,20 1942, Dodge Earl T. Mitchell
LeConte's Sparrow	03,29 1981, Milwaukee William J. Cowart	11,15 1991, Dane Ellen Hansen
Sharp-tailed Sparrow	—one early April record	04,04 1981, Milwaukee Dennis K. Gustafson
	04,28 1967, Eau Claire Charles A. Kemper	10,20 1980, Milwaukee Mary F. Donald
Fox Sparrow	08,28 1956, Washburn Alexander Sprunt	05,29 1982, Douglas Robbye J. Johnson
	—one summer record	06,25 1935, Vilas Vernon C. Rossman
Lincoln's Sparrow	04,05 1981, Milwaukee Daryl D. Tessen	03,14 1973, Milwaukee Mary F. Donald
	one over-wintering record	1972–1973, Buffalo Merton and Lorena Maier
Golden-crowned Sparrow	11,26 1992, Sheboygan Roger C. Reif	06,05 1963, Bayfield Janet L. Koslowski
Harris' Sparrow	09,09 1970, Price Alice C. Vincent	06,02 1968, Price Maybelle Hardy
Lapland Longspur	08,03 1982, Dodge Dennis K. Gustafson	05,29 1978, Douglas Daryl D. Tessen
	—one summer record	07,17 1937, Dane John S. Main

(continued)

Table 1. *Continued*

Species		Early extreme dates Observer exceptional observation, if noted	Late extreme dates Observer
Smith's Longspur	Sp.	03,19 1869, Jefferson A. Ludwig Kumlien	04,28 1921, Sauk Herbert L. Stoddard
	Fl.	09,29 1978, Columbia Randy M. Hoffman	11,26 1964, Racine J. Allan Simpson
Chestnut-collard Longspur		—three records	
		03,20 1976, Polk Keith H. Dueholm	06,06 1978, Sheboygan Noel J. Cutright
Snow Bunting		—one summer record	July 24–28, 1974, Brown Louise W. Erickson
		09,16 1983, Bayfield Albert J. Roy	05,24 1993, Iron Lance Tryggeseth
Bobolink		04,12 1960, Polk Gertrude Pedersen	10,27 1940, Brown Donald F. Liebmann
Orchard Oriole		04,26 1975, Kenosha Ronald R. Hoffman	10,14 1943, Milwaukee Murl Deusing
Northern Oriole		04,02 1976, Brown Edwin D. Cleary	12,29 1982, Dane Sergey Postupalsky
		—one record beyond Dec.	Jan. 7 to Feb. 14, 1958, Grant Irene Jack
		—in the near future the Northern Oriole might again be split into the Baltimore and Bullock's. There are two records for the western race bullockii.	Nov. 7–11, 1952, Milwaukee Mary F. Donald
			Dec. 19–20, 1992, Milwaukee Dennis K. Gustafson Roger H. Sundell Daryl D. Tessen
Brambling		—one record	
		01,17 1994, Winnebago Kenneth V. Krake	01,25 1994, Winnebago Kenneth V. Krake
Gray-crowned Rosy Finch		—one record	
		02,19 1981, Dunn John M. Russell	03,18 1981, Dunn Janine L. Polk Samuel D. Robbins
Common Redpoll		08,26 1920, Vilas Clarence S. Jung	05,31 1959, Oneida William L. Hilsenhoff
		—one summer record	06,27 1973, Door Louise L. Erickson
Hoary Redpoll		11,03 1968, Burnett Richard F. Bernard	04,26 1982, Ashland Richard L. Verch

English Sparrow *by Ed Boerner*

Summer Birds of Conifer Plantations in Southeastern Wisconsin

Summer birds were inventoried in extensive 35–52 year-old conifer plantations in the Kettle Moraine State Forest in southeastern Wisconsin using point counts (1993) and other observations (1978–93). 59 species of breeding (29), presumably breeding (21), or summering (9) birds, including 30 regionally uncommon-to-rare and/or area-sensitive species were detected. The authors speculate that avian species richness in these plantations is related to: 1) direct provision of large amounts of upland coniferous habitat, 2) consolidation of forest cover, 3) interspersion of coniferous and deciduous habitat, and 4) low intensity management regimes. They suggest that the unplanned benefits of these conifer plantations as bird habitat demonstrate the value of broader-based reforestation for wildlife purposes.

by John Bielefeldt and Robert N. Rosenfield

More than 240,000 ha (600 thousand acres) of conifer plantation have been established in Wisconsin (Spencer et al. 1988), mostly for timber production purposes and often outside the natural range of the tree species involved. Despite their areal and economic significance, these plantations have received little attention as bird habitat. Aside from counts by Wood (1979) in 20 pine plantations in Vilas and Forest Counties, within these conifers' native range, there appear to be no published inventories of summer birds from extensive tracts of plantation habitat in Wisconsin or neighboring states.

One of the state's largest expanses of conifer plantation beyond native range lies in the Southern Unit (SU) of the Kettle Moraine State Forest in Waukesha, Walworth, and Jefferson Counties in southeastern Wisconsin. Here we report counts, breeding records, and other summer observations for 59 species of birds in plantations

in the SU. We also speculate about landscape and management patterns that may induce such avian diversity in a locally novel habitat, and suggest a role for conifer and hardwood plantations in conserving bird populations of forest habitats.

Study Area

Between 1941 and 1975, about 1100 ha in the SU were planted to red or white pine (*Pinus resinosa, P. strobus*), approximately 100–160 km south of native range (Curtis 1959), with much smaller amounts of white spruce (*Picea glauca*) and exotics (Norway spruce *P. abies,* Scotch pine *P. sylvestris*). Our primary study area in Waukesha County, which holds most of the SU's oldest (pre-1960) plantations, is figured in Rosenfield et al. (1991). Plantations now account for 33% of total forest cover (1140 ha) on this 1200 ha study area.

Older plantations in the SU have closed many gaps in pre-existing oak forests (*Quercus* sp.), undergone one or more commercial thinnings since 1970, and developed deciduous understories dominated by non-native shrubs and saplings (Bielefeldt and Rosenfield 1992). Canopy heights and tree densities ow resemble those of adjacent hardwood stands. Plantations on our primary study area also exhibit small sizes (2–39 ha), irregular shapes, and high interspersion with deciduous forest; streams and permanent ponds are absent.

Methods

We surveyed summer birds on the primary study area in 1993 using unlimited-radius, single-visit, six-minute point counts (n=45), 29 May–22 June, in 13 previously thinned, 35–52 year-old plantations totalling 284 ha. Counting points were spaced 250 m apart, at least 125 m from stand's edge, along transects also lying $\geq$250 m apart. Transect routes and number of points were determined by stand size and configuration. Locations of points are on file with SU headquarters at Eagle WI.

All counts were conducted between 0500 and 0700 hr CST in weather without rain or strong winds. We recorded all individual birds seen or heard within plantation habitat, including internal deciduous patches or uncanopied openings $\leq$0.4 ha in size. Additional species detected within plantations before, after, or between counts were listed separately in inter-point effort totalling 12 hrs. Individuals believed to be duplicated in counts at adjacent points, birds flying above canopy level, and birds beyond the edge of plantation habitat were omitted. We tabulated frequency of detection (% of counting points) and total count at all points for each species, plus inter-point detections of additional species (Table 1).

In addition, the same 13 plantations and 2 similar stands elsewhere in the SU have been visited repeatedly from mid–March to mid–July, 1981–93, in the course of other work. Annual June–July visits have averaged about 3 per stand over these years (range 1–18). Other visits in March–May, averaging about 5 per stand per year (range 1–17), have aided detection of early-nesting species such as raptors and crossbills (scientific names for birds appear in Table 1). Many of these spring and summer visits were brief checks ($\leq$30 min) of small portions of

Table 1. Breeding and summer birds of SU conifer plantations, 1993 point counts and other 1978–93 observations.

Species	% points (n=45)	Total count	Interpoint	Other 1978–93	Regional status[a]
*Chipping Sparrow[b] *Spizella passerina*	80	71			
**Ovenbird *Seiurus aurocapillus*	71	52			U, S
**Indigo Bunting *Passerina cyanea*	33	17			
**Rufous-sided Towhee *Pipilo erythrophthalmus*	29	17			
*Acadian Flycatcher *Empidonax virescens*	24	14			U, S
**House Wren *Troglodytes aedon*	18	10			
*Brown-headed Cowbird *Molothrus ater*	18	10			
**American Goldfinch *Carduelis tristis*	18	10			
**Pine Warbler *Dendroica pinus*	16	7			R
*Black-capped Chickadee *Parus atricapillus*	13	6			
**Chestnut-sided Warbler *D. pensylvanica*	13	12			R, S
**Blue Jay *Cyanocitta cristata*	11	5			
*Wood Thrush *Hylocichla mustelina*	11	6			U, S
**Northern Cardinal *Cardinalis cardinalis*	11	5			
*Mourning Dove *Zenaida macroura*	9	4			
*American Crow *Corvus brachyrhyncos*	9	4			
*Red-breasted Nuthatch *Sitta canadensis*	9	4			E
*American Robin *Turdus migratorius*	7	3			
**Gray Catbird *Dumatella carolinensis*	7	3			
*Red-eyed Vireo *Vireo olivaceus*	7	3			S
**Black-throated Green Warbler *D. virens*	7	3			E, S
**Mourning Warbler *Oporornis philadelphia*	7	3			U, S
*Eastern Wood-Pewee *Contopus virens*	4	2			
*Hooded Warbler *Wilsonia citrina*	4	2			R, S
**Scarlet Tanager *Piranga olivacea*	4	2			S
**Least Flycatcher *E. minimus*	2	1			U, S

(continued)

Table 1. *Continued*

Species	% points (n=45)	Total count	Interpoint	Other 1978–93	Regional status[a]
*Blue-gray Gnatcatcher *Polioptila caerulea*	2	1			U, S
**Cedar Waxwing *Bombycilla cedrorum*	2	1			
*Solitary Vireo *V. solitarius*	2	1			E
*Blue-winged Warbler *Vermivora pinus*	2	1			U
*Cooper's Hawk *Accipiter cooperii*			x		U
*Broad-winged Hawk *Buteo platypterus*			x		E
*Wild Turkey *Meleagris gallopavo*			x		U
*Long-eared Owl *Asio otus*			x		U
*Ruby-throated Hummingbird *Archilochus colubrus*			x		
**Downy Woodpecker *Picoides pubescens*			x		
**Great Crested Flycatcher *Myiarchus crinitus*			x		S
Turkey Vulture *Cathartes aura*				x	
*Sharp-shinned Hawk *A. striatus*				x	E
*Red-tailed Hawk				x	
**Black-billed Cuckoo *Coccyzus erythropthalmus*				x	
Yellow-billed Cuckoo *C. americanus*				x	
*Great Horned Owl *Bubo virginianus*				x	
Barred Owl *Strix varia*				x	
*Northern Saw-whet Owl *Aegolius acadicus*				x	E
**Hairy Woodpecker *P. villosus*				x	S
*Pileated Woodpecker *Dryocopus pileatus*				x	R, S
**Golden-crowned Kinglet *Regulus satrapa*				x	E
Hermit Thrush *Catharus guttatus*				x	
Bell's Vireo *V. bellii*				x	
*Yellow-throated Vireo *V. flavifrons*				x	S
**Nashville Warbler *V. ruficapilla*				x	E
Black-throated Blue Warbler *D. caerulescens*				x	

(continued)

Table 1. *Continued*

Species	% points (n=45)	Total count	Interpoint	Other 1978–93	Regional status[a]
Blackburnian Warbler *D. fusca*				x	
Yellow-breasted Chat *Icterus virens*				x	
Northern Oriole *Icterus galbula*				x	
*Red Crossbill *Loxia curvirostra*				x	E
*White-winged Crossbill *L. leucoptera*				x	E
*Pine Siskin *Carduelis pinus*				x	E

*Breeding confirmed

**Breeding assumed

[a]For breeding and presumably breeding species, U = uncommon, R = rare, E = extralimital in southeastern Wisconsin (from Robbins 1991); S = area-sensitive (From Freemark and Collins 1992).

[b]Underlined species are those found in both northern Wisconsin conifer plantations and the SU (see text).

plantation habitat rather than thorough coverages of a stand; observations of breeding and summer birds were thus gathered incidentally. We nevertheless calculate that we have spent >1000 hrs in plantation habitat over 13 years during 1600 March–July visits to 15 older stands with a total area >300 ha.

Other 1978–93 records from irregular visits to younger and/or unthinned plantations are also reported here if they complement the observations obtained in older stands, but birds of seedling and sapling plantations <6 m in height are excluded. Breeding birds are those for which nests, eggs (Brown-headed Cowbird), or fledglings have been found in plantations. Presumably breeding species are those in which nesting is suggested by behavior, numbers, or regular presence in plantations during the breeding season. We used maps of "good" and "medium" tree density in Bordner et al. (1936) to estimate forest acreage on the study area in 1934, shortly before state acquisitions and conifer plantings began.

Results

Point counts and inter-point observations in summer 1993 detected 37 species of birds in 35–52 year-old conifer plantations on the primary study area, with 22 additional species also noted in the breeding season in SU plantations during other 1978–93 visits (Table 1). Among these 59 species, 50 are known or presumed to nest in plantation habitat (Table 1).

We regard four species with single June occurrences as late migrants or non-breeding vagrants (Hermit Thrush, Bell's Vireo, Black-throated Blue Warbler, and Blackburnian Warbler). Other species that might be classed as migrants in southern Wisconsin in early June (cuckoos, war-

blers, etc.) have been detected repeatedly in one or more stands into July, as with the three Mourning Warblers, for example, in our 1993 point counts (Table 1). A few species roost or forage in plantations without present evidence of breeding (e.g., Turkey Vulture, Northern Oriole).

To document the breadth of avian use of these plantations, nesting data and other comments on selected species are given below. Regional status of these species in southeastern Wisconsin is shown in Table 1. Unless otherwise indicated, all records come from personal observations in older plantations in Waukesha County.

Turkey Vulture—No nests have been discovered within the SU's boundaries but annual roosts of 30–60 birds are often situated in white pine or Norway spruce plantations during spring and early summer—e.g., late April 1981 (J. S. Thiel, pers. comm.) and 25 June 1982.

Sharp-shinned Hawk—Eight nests detected 1980–92, all save one in older but unthinned stands of Norway spruce (5), red pine (1), or Scotch pine (1). Presumably breeds annually in the SU.

Cooper's Hawk—More than 100 nests in the SU, 1982–93, mostly in plantations (95%) and mainly on the primary study area (80%), which holds a stable population at the highest rural nesting density reported for the species (Rosenfield et al. 1991, Rosenfield and Bielefeldt 1993).

Broad-winged Hawk—Present annually in June–July—e.g., at least 5 plantations in 1992—with incidental records for 8 nests (7 in white or red pine), 1981–93. Also summers in hardwood habitat in the SU, including 2 sites in Walworth County in 1981 and 3–4 sites in Jefferson County in 1992.

Wild Turkey—Plantations are "preferred winter roost sites" (Wisconsin Department of Natural Resources 1991:45) into March and April as well as known nest sites (e.g., 8 May 1992) and brood-rearing sites (e.g., 21 June 1993) for an expanding population reintroduced in 1986 and now totalling >700 birds in the SU (M. Andersen, pers. comm.).

Barred Owl—Plantation nesting undocumented but often roosts in pines with detections in 3 stands in 1992, for example.

Long-eared Owl—T. Bintz (pers. comm.) saw a nest in unthinned red pine in the late 1970s. Despite incidental discoveries of many other crow and raptor nests during intensive searches for plantation-nesting Cooper's hawks since 1982, we had no personal SU records of this owl in spring or summer until a nest with young on 29 May 1993.

Northern Saw-whet Owl—Fledgling found dead in a white pine grove, 15 May 1990 (Bielefeldt and Rosenfield 1993).

Pileated Woodpecker—Seen in SU every year since 1982, with spring and summer birds at 3+ sites (including hardwoods) by 1992. Nest in white pine snag 3 June 1992, with foraging records from several other plantations.

Acadian Flycatcher—Breeds in most older plantations at mean densities ca. 8 males per 40 ha (Bielefeldt and Rosenfield 1992).

Red-breasted Nuthatch—Breeding was suspected on the basis of yearly June-July detections since 1980 as well as excavating birds (3 April–2 May) at 4 sites in 1981 or 1988, then confirmed by nestlings in a red pine snag on 21 May 1989. Detected at 13 sites in 10 of the 13 stands on the primary study area in summer 1993.

Golden-crowned Kinglet—As many as 3 singing birds in one spruce-pine plantation on dates between 21 May and 9 July in 1980, 1986–87, and 1991, with adults feeding fledgling cowbird on 19 June 1991.

Solitary Vireo—During 1979–88, annual June–July records of 1–4 singing birds, with 6–9 yearly in 1989–93. Pair with nest 1980 (Bielefeldt 1981) and unsuccessful nest with eggs for male Solitary × female *Yellow-throated Vireo* in 1989, when both sexes seen building and incubating.

Nashville Warbler—In 1979, 7 singing birds 5–30 June and one presumably nesting individual in distraction display (26 June) at edges or small openings in plantation habitat. Widely noted in other southern Wisconsin counties, beyond usual summer range, in the same year (*Pass. Pigeon* 42:82). Also one 21 June 1978, 4–5 singers 28 May–4 June (but not later) in both 1980 and 1982, and one 31 May–3 July 1993.

Black-throated Green Warbler—One to 4 singing birds through June–July in 1980, 1983, and 1986–92; minimum 6 (possibly 8) in 1993.

Pine Warbler—At least 5 singing birds annually since 1979; detected at 16 sites in 10 of the 13 stands on the primary study area in summer 1993.

Hooded Warbler—Home ranges of singing birds included plantations at 3 sites in 1993, when also found nesting in a blackberry (*Rubus* spp.) thicket under red pine canopy at a fourth site (24 June). Not previously detected in conifers although widely present and nesting (20 July 1993) in deciduous forests of the SU—e.g., ≥22 sites in 1992 (pers. obs., R. Hoffman pers. comm.).

Yellow-breasted Chat—One 27 May–28 June in 1982 in a heavily-thinned plantation with an open canopy and dense understory thickets of blackberry, buckthorn (*Rhamnus* spp.), and black cherry (*Prunus serotina*).

Red Crossbill—Nests opportunistically if large local cone crops exist, as in 1980 (see Robbins 1991) and 27 March 1981, when nest-building in red pine. (Also building 31 March and still present at nest 18 April 1981 in eastern red cedar (*Juniperus virginiana*), the SU's only native upland conifer.) Counts of singing or apparently paired birds suggest 15–20 pairs in plantations on the primary study area, late March–mid April 1981, when summer dispersal (last seen 26 June and 9 July) apparently followed spring breeding. Nesting unconfirmed but chronologically similar appearances into mid–June 1985, late May 1988, and early July 1991.

White-winged Crossbill—One nesting pair in an unthinned, semi-open white spruce plantation in March 1993 (Bielefeldt and Rosenfield 1993).

Pine Siskin—As Red Crossbill, breeds irregularly. Incubating at red pine nest 13 April 1981, with persistently present pairs (14 March–9 April) or fledglings (8 May) at three additional sites in sparsely canopied plantation edges or openings such as windthrows. Numbers on primary study area estimated at 35–40 pairs in spring 1981, when last seen 7 June. Though we did not search for nests, also present into late May in 1984, 1987, and 1988.

Among the 50 species of breeding or presumably breeding birds tabulated and discussed above, 30 (60%) have been characterized as uncommon, rare, or extralimital in the breeding season in southeastern Wisconsin (Robbins 1991), and/or as "area-sensitive" species (Freemark and Collins 1992) that appear to require large tracts of forest for nesting habitat (see Table 1). Ten species (20%) fall into both categories.

At least 8 species using plantation habitat have bred in the SU (Table 1) beyond the limits of the summer ranges shown by Robbins (1991). Three more species (Golden-crowned Kinglet, Nashville Warbler, Black-throated Green Warbler) have probably nested extra-limitally in the SU's plantations, while two more (Pine Warbler, Mourning Warbler) are annually present in plantations in an area mapped by Robbins (1991) as a disjunct island of summer range. Two state-threatened species (Acadian Flycatcher, Hooded Warbler) and three species (Cooper's Hawk, Long-eared Owl, Pine Siskin) of special concern in Wisconsin as breeding birds (Bureau of Endangered Resources 1993) are also known to nest in these plantations (Table 1). Because of their small regional numbers, limited regional distribution, or sensitivity to forest area, up to 60% of the breeding and presumably breeding bird species of the SU's conifer plantations can thus be regarded as important elements of avian diversity in the agro-urban landscape of southeastern Wisconsin.

All but 3 of the 280 individual birds tallied in point counts in 1993 were initially detected by songs (207) or call notes (70) rather than visual means. Because aural detectability varies among species with distance and other factors, and also within species by sex, stage of breeding, etc., the counts in Table 1 do not portray the absolute or comparative numbers of these species in plantation habitat in the SU.

Discussion

Conifers have been planted for purposes of commercial forestry on six continents, usually in high-density monocultures of one or two species and often in areas beyond the trees' native range. Plantations in the SU are no exception.

Such plantations are frequently described, rather emotively (Curry 1971), as "biological deserts" with minimal vegetational variety and little habitat value for birds or other wildlife. As with other novel habitats, however, avian use of plantations depends on age, management regimes, food and nest site resources, and the proximity of bird species adapted to conifers or plastic in habitat use (Cody 1985).

In terms of species richness, 35–50 year-old conifer plantations in the SU appear to support a diverse breeding bird community. It is difficult to compare our results with those obtained by Wood (1979) in northern Wisconsin pinelands, even though counting methods were similar in regard to sampling species richness. Wood's 26 study sites included several natural pine forests ans sparsely canopied jack pine (*P. banksiana*) plantations as well as 12 red and white pine plantations. He apparently listed birds seen overflying these stands and possibly some species of forest-field edges or large openings; we did not. In our judgment, excluding "species definitely not part of the pine forest breeding community" (Wood 1979:24) and a few others of non-forest habitat, Wood detected about 34–37 presumably breeding species in his 12 stands of red and white pine plantation.

In 13 SU plantations of similar overstory composition, age, and structure (see Wood 1979: Table 4), we recorded 37 species during 1993 point counts and inter-point observations. Species richness thus seems comparable in northern plantations within these pines' native range and SU plantations outside that range. Twenty-one species, underlined in Table 1, were common to both sets of counts.

Moreover, a species richness of 50 breeding and presumably breeding birds in SU plantations, 1978–93, is relatively high in comparison to the tally of approximately 60 probably-breeding species in the SU's upland deciduous forests over the same years (JB, unpubl. data). We speculate that species richness and the large proportion (60%) of regionally uncommon-to-rare and/or area-sensitive birds in SU plantations are linked to several factors at landscape or intra-stand levels:

(1) Direct provision of large amounts of upland coniferous habitat—Except for small groves of eastern red cedar, native upland conifer forests are absent in southeastern Wisconsin. About 10 regionally rare conifer obligates (e.g. Pine Warbler) or conifer-associated species (e.g., Red-breasted Nuthatch) have colonized or bred sporadically in these plantations. Similar extensions of breeding range have been noted elsewhere in large-scale conifer plantations (Newton 1983).

In addition, about 27 members of the local species pool, many of them regionally common, appear to be flexible in use of conifers and hardwoods as overstory nesting, roosting, or foraging sites (e.g., Cooper's Hawks—see Rosenfield and Bielefeldt 1993), or indifferent to overstory composition if habitat is otherwise suitable (e.g., Rufous-sided Towhee).

(2) Consolidation of forest cover—As noted earlier, conifer plantations on former croplands have filled many openings in pre-existing woodlands and now contribute one-third of forest cover on the primary study area. Natural regeneration of hardwoods on another third of this area has concurrently helped to close canopies on formerly extensive tracts of sparsely wooded pastureland. Re-forestation processes have thus raised the amount of closed-canopy forest cover on the primary study area from about 30% in 1934 (Bordner et al. 1936) to 95% at present, and consolidated earlier fragments of oak forest into a continuous block of woodland habitat.

Correlations between forest size and the presence or abundance of certain bird species are well established (Robbins et al. 1989, Freemark and Collins 1992). About 11 species of area-sensitive birds occurring in SU plantations, some of them regionally rare (e.g., Pileated Woodpecker), have presumably benefitted from consolidation of forest-interior habitat. Other area-sensitive species that seldom venture into plantations from adjoining hardwoods (e.g., Hooded Warbler) may also have profited as previously unsuitable edges and islands of oak forest became a usable part of contiguous woodland cover.

(3) Interspersion of conifers and deciduous habitat—For reasons of topography and historical land use, plantations in the SU share convoluted external boundaries with deciduous forest and also include small internal patches of mature hardwood habitat at knolls, kettleholes, old farm fencerows, and isolated "wolf" trees (Bielefeldt and Rosenfield 1992). Younger deciduous trees also reach the canopy in small groves where conifer survival is poor.

About 9 species ordinarily described as birds of deciduous forest occur in plantations in seeming association with these hardwood edges and patches (e.g., Eastern Wood-Pewee). Nevertheless, with a few exceptions, all of the arboreal nesters listed as confirmed breeders in Table 1 have used conifers as nest sites. Exceptions are the three vireos (shrub or sapling nests) and the Northern Saw-whet Owl (fledgling record). Increases in avian species richness have been reported elsewhere when plantations are fringed or interspersed with hardwoods (Williams 1970, Bamford 1986, Curry 1991).

(4) Low intensity management regimes—Logistical constraints, recreational uses (trails, rustic campsites), and aesthetic values have precluded intensive management of the SU's conifer plantations. Apart from initial and intermediate thinnings, these stands have not undergone such common commercial practices as pulpwood clearcuts, prunings, understory and competitor suppression, salvage and sanitation cuts, or slash removal.

In consequence, older stands have developed both vertical and horizontal variety in habitat structure. Post-thinning abundance and vigor of deciduous shrubs and saplings is high, while natural regeneration of seedling conifers (especially white pine) is frequent. Small ($\leq$0.4 ha) or narrow ($\leq$30 m) openings created by planting failures, windthrows, recreational facilities, or firelanes are widely present. Irregular thinning operations at intervals $\geq$15 years in stands planted over three decades have also yielded high spatial variety in the structural and habitat attributes of plantations. About 14 bird species, mainly ground and shrub-sapling nesters, seem to be associated with brushy openings (e.g., Chestnut-sided Warbler) or other understory habitats (e.g., Acadian Flycatcher—see Bielefeldt and Rosenfield 1992) in these lightly-managed plantations.

Two factors at the landscape level (large-scale provision of coniferous habitat plus forest consolidation) may thus be linked to the occurrence of many regionally rare and/or area-sensitive species in the SU's plantations. Two factors at the stand level (conifer-hardwood interspersion plus low-in-

tensity management) appear to allow or enhance the use of plantations by other, mostly commoner species. Proximity to their usual breeding ranges in the mixed forests of central and northern Wisconsin may have helped to prompt colonization of the SU by conifer-associated species such as Pine Warbler or post-breeding vagrants such as Pileated Woodpecker.

The oldest plantations in the SU are only midway through a planned rotation age of 90–120 years (Wisconsin Department of Natural Resources 1991). Most parts of these stands still show a two-tier structure of overstory conifers (ca. 20–25 m) and understory shrubs and saplings (ca. 2–6 m). As these older stands mature, existing hardwood and pine seedlings will presumably develop an intermediate subcanopy layer of mixed composition. As several hundred hectares of younger plantation meanwhile reach mid-rotation age, thinnings will replicate the habitat conditions now seen in older stands. New plantings begun in 1993 after an 18-year hiatus will add an estimated 400 ha of younger pine or pine-oak by the turn of the century (Wisconsin Department of Natural Resources 1991).

Habitat complexity and avian diversity should thus continue to increase over the next several decades in most conifer stands and in the SU's plantations as a whole. Numbers of previous colonists such as the Black-throated Green Warbler seem likely to increase, and new species such as Blackburnian Warbler might be predicted to appear as summer residents in mature plantations.

Conservation Implications

Large areas of forest-interior habitat are now rare in southeastern Wisconsin. Closed-canopy upland forests occupied 50% of regional area in the presettlement land surveys of 1836 but only 7% in 1990, and only 1% of remaining forest parcels are <32 ha in size (Southeastern Wisconsin Regional Planning Commission, unpubl. data). Rural lands including woodlands have been converted to residential and other urban uses at an average regional rate of prospect for averting a continued conversion and fragmentation of many of the region's privately-owned woodlands.

Conifer plantations in the SU have thus become an integral component of forest cover on the region's largest remaining reservoir of woodland habitat. We have shown that these plantations are also an important or usable component of forest habitat for many regionally rare and area-sensitive birds. The regional significance of the SU and its plantations as forest habitat seems certain to increase as urbanization proceeds in southeastern Wisconsin. Management of the SU's plantations should thus address their vital regional role as bird and wildlife habitat as well as their recreational and economic values.

The utility of the SU's conifer plantations as bird habitat was unanticipated. Until recent years (Wisconsin Department of Natural Resources 1991), planting and management programs were keyed primarily to timber harvests. As discussed above, a combination of fortuitous circumstances—not forethought—has yielded these plantations' unexpected benefits or breeding birds. We do not mean to denigrate the work or the outlook of SU foresters of earlier decades. We see instead a positive prospect: the *unplanned* success of these plantations as

bird habitat over the relatively brief span of 35–50 years suggests that plantings *designed* for wildlife purposes might achieve even greater and quicker success in providing additional habitat.

Plantations at natural densities with an appropriate mix of faster- growing trees (conifers, ashes [*Fraxinus* spp.], poplars [*Populus* spp.], etc.), slower-growing species such as oaks, and native shrubs as an understory might supplement diminishing forest habitats in several ways. For example, plantations might be used to buffer, expand, or link existing woodlands into larger tracts of habitat. The commercial value of existing (and mostly isolated) woodlands for residential purposes means that acquisition costs will far exceed the monies available for protecting large amounts of forest habitat in southern Wisconsin. In some cases it might ultimately be cheaper and more productive to buy and re-forest open lands with the aim of linking or expanding protectable woodlands.

Current incentives for planting, protecting, and harvesting timber stands on private lands might be extended to plantations devoted (at least in part) to providing new wildlife habitat. Re-forestation projects studied from their inception would also provide fruitful research opportunities in a field where most work has focused on the ill-effects of forest fragmentation rather than the possibility of mitigating these effects by forest re-consolidation (Rosenfield et al. 1992).

We believe that such re-forestation efforts would best be directed at the relatively rapid provision of relatively large amounts of usable wildlife habitat, and not at the much more difficult and costly goal of "restoring" small amounts of native forest vegetation. Botanically-based restorations may be appropriate on a local scale. We suggest, however, that the unplanned benefits of the SU's conifer plantations as bird habitat demonstrate the value of broader-based re-forestation for wildlife purposes. With a few exceptions, including Cooper's Hawk (Rosenfield et al. 1991, Rosenfield and Bielefeldt 1993), Wild Turkey (M. Andersen, pers. comm.), and Acadian Flycatcher (JB and RNR, unpubl.), we have little information on reproductive success or other aspects of demography for the birds of SU plantations. Future research on avian demography in plantation habitats is needed, as for many other species and habitats (Martin 1992).

Acknowledgments

We thank the staff of the Kettle Moraine State Forest and D.M. Reed at the Southeastern Wisconsin Regional Planning Commission for logistical support. The University of Wisconsin-Stevens Point provided partial funding. D. Snyder prepared the manuscript. Our current work in the Kettle Moraine is supported in part by the Society for Tympanuchus cupido pinnatus, Ltd., for which we are grateful.

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Magnolia Warbler *by Ed Boerner*

Inciting as a Mate Selection Strategy in Canada Geese

The author concludes that female Canada Geese incite males to attack or threaten other males of the species in order for her to evaluate the male's ability to defend her and a nest. This mate selection strategy is masked by his family's status and has been dismissed by other ethologists studying this species.

by Philip C. Whitford

Mate selection by individuals may be viewed as a subset of natural selection, where correct selection improves chances for leaving offspring behind. Female nest desertion is a major cause of reproductive failure in Canada geese *Branta canadensis* (Sherwood 1966; Wood 1964) and commonly results from inadequate male defense of the female and nest during laying and incubation (Cooper 1978). Thus, natural selection should favor a mate selection strategy that insures female protection during this period. There is no direct evidence that larger male body size increases reproductive success, as was demonstrated for females (Raveling 1979), nor are male size and dominance strongly correlated (Raveling 1967). Geese are territorial only after pairing, so territory size cannot be used to assess male fitness. Few immediately apparent male characteristics exist on which the female may base her selection of mates. Yet, close examination of processes of goose pair formation and mate selection, both through observation and literature review, may provide some insight in determining what potential criteria may be used during these processes to assess mate suitability.

Dominance in geese is based on family size, social status, and age (Raveling 1967). An individual male's dominance/aggressive ability is masked by his family's status and aggression of the family gander while within the family unit. As such, females can't assess an unpaired male's aggressive potential under these conditions. How then can the female assess a potential mate's ability to defend her, and what criteria or selection strategies may be used for this purpose? Under the proper conditions, inciting would prove to be an effective means of assessing aggressive/defensive potential of the male.

In inciting, the female directs the male to attack or threaten other males

via direct approach or gestures towards those males. This behavior is common in mate selection among duck species (Johnsgard 1965; Lorenz 1951–53, 1966). Since Johnsgard (1965, 1975) stated inciting did not occur in Canada geese (he uses this to separate the genus *Branta* from *Anser*—which does incite—in his behavioral taxonomy of waterfowl), it was largely dismissed as a potential mate selection strategy for the species. Incidental observations from a two year behavioral study of a semi-captive flock have caused me to think that a reevaluation of inciting behavior in Canada geese was warranted, and may shed light on some pair formation strategies of the species.

To judge whether a pair has formed or is in the process of forming requires a means of distinguishing paired and unpaired birds. The most widely accepted indicator that pair formation is complete is observation of triumph ceremonies by members of the pair following aggressive encounters. The triumph display is best described as follows: the male and female call repeatedly, with their necks down and out facing the other bird, weaving the head side to side as they approach each other after successful aggressive encounters with other geese. The triumph ceremony is defined as a pair bond strengthening display, only observed after mate selection and pair bonding is completed (Fischer 1965; Lorenz 1959; Würdinger 1970).

Methods

Observations reported here were incidental to a two year study of Canada goose vocal and visual communication (Whitford 1987). That research was conducted at the Milwaukee County Zoological Park, Milwaukee, Wisconsin, within a 49.0 ha (hectare) enclosure which confined my free-roaming, pinioned, geese to zoo grounds. A 2.0 ha man-made lake and two smaller ponds surrounded by mowed grass served as behavioral observation sites. Zoo grounds opened at 09:30 CST daily, permitting undisturbed observation from 06:00 to 09:30. Observation was conducted 8 August 1981, to 15 August 1982; four to nine hours per day, three to four days/week. During the March–May breeding season geese stayed near the water in areas off limits to the general public and observations were extended to 15:00 hours, two days per week. Observation was via "obtrusive field observation" with no attempt to conceal myself from the study birds (Burghardt 1973).

Principle geese used in this study were captured at Silver Lake, Rochester, Minnesota, 7 July 1981. This flock was used by Hanson (1965) to establish and define the giant Canada goose subspecies *B. c. maxima.* Geese selected for this study from among those captured, were chosen from widely differing areas in pens in an attempt to avoid selections of siblings or paired individuals. Geese were aged and sexed by cloacal examination (Hanson 1965) and 15 yearling birds were obtained (birds in their second summer, Balham 1954). The study was unique from the standpoint that it used only yearling geese and that they were chosen to reduce prior associations among the study birds. The geese were pinioned and triple banded on right legs with numbered, colored bands. Individual geese were identifiable on land by band color sequence. In addition, there were 18 resident

geese I had measured and weighed [judged to be *B. c. maxima* using Hansen's criteria (1965)], aged, sexed and banded September 1980.

Goose calls and verbal descriptions of behavior were tape-recorded with a Uher Report model 4200 stereo tape recorder, tape speed 9.6 cm/s, with an Electrovoice model 644 directional microphone. Descriptions included date, time of day, identity, posture and actions of the birds involved, initiator and recipient(s).

Results

My observations of a uniform aged flock entering their first breeding season (two years old) convinced me that female Canada geese incited as part of initial pair formation processes. From August 1981 through February of 1982 the members of this flock remained as a loose aggregation of individuals with no evidence of paired aggression or strongly coordinated actions between individuals. In observations 12–28 March, 1982, unpaired females with males feeding near them in the flock routinely threatened multiple flock members in succession without provocation, head down and out, taking quick steps in their direction. A single male feeding near the female would then run past her and pursue the indicated bird in full low coil posture of aggression (Klopman 1968). As the male began his return to the female, she would veer off and threaten another goose—as many as five individuals in succession. Returning from one aggressive action the male would run past the goose and attack the next goose and the next without going through a complete triumph ceremony between attacks.

Study data list the following birds were involved in what I believe to be inciting behavior on the indicated dates. All observations were between 08:00 and 10:00 while the group was feeding on new grass on a south facing slope above Lake Evinrude. Actions proceeded so quickly that all recipients of aggression were not able to be positively identified while following the actions of the two aggressors. Thus, only initial recipient and number of birds pursued in each case is given following dates. Abbreviations reflect top to bottom sequence of Red, Blue, Green or Yellow leg bands on birds. Initial geese aggression was directed against were generally of higher dominance status than the female that instigated the aggression according to dominance matrices determined for the flock (Whitford 1987).

Female RRY initiated one serial attack sequence on 12 March and two on 15 March directed towards 4, 5, and 4 birds, respectively. The first recipient on 12 March was male YRG, on 15 March male GRY both times. Male YRR chased all birds first attacked by the female in the same sequence. Female BGY initiated similar aggressive sequences on 26 and 28 March against 4 birds (beginning with male GGY) and 3 birds (beginning with female YBR), respectively. Male YRG chased all geese indicated by this female. On both 22 March and 26 March female YBG initiated aggression against three other geese in series each time. First recipients were both males, GRY and GGY, respectively. Male YGG followed up on each of these short aggressive rushes to chase away the indicated birds. The three pairs observed in these inciting displays ended up nesting and defending territories,

YRR and RRY, YRG and BGY, YBG and YGG. All pairs evidenced full triumph displays following aggression by the last day of observation of these behaviors. First observed copulations for each pair were 3/29, 4/19 and 3/29, respectively. Two other pairs formed from within the study geese, YBR and GRY attempted nesting twice, unsuccessfully. (They were removed from the first nest site for attacking children who came near the nest—and held in pens for two weeks.) GGY and BBY were never found to have a nest or territory, but were observed to copulate 13 April. They were the last pair to form and male GGY was observed to copulate with a different marked female from the zoo flock 24 March. Though no inciting was observed for these last pairs, I was not present every day and I believe it probably occurred during my absence, along with additional inciting instances for the pairs for whom it was observed. Of the remaining five birds originally captured, one died in quarantine August 1981, two disappeared from the Zoo grounds 20 November 1981, and two paired with free-flying unbanded geese that had used the Zoo grounds intermittently during the winter, when the feeding station was being stocked. Therefore, all surviving birds in my study group formed pairs--presumably for the first time—as two year olds.

Discussion

The selection technique used to pick geese for the study was apparently a success. There was no sign of consistent association or joint aggressive activity by any subset of these study birds until pairing the following spring, though they remained together as a more-or-less cohesive flock upon release from quarantine.

Since the females involved in the earliest of these aggressive/inciting displays consistently failed to perform complete triumph displays with the males- and it is accepted that participation in the triumph ceremony is the only positive indication of pair formation in geese (Heinroth 1911; Lorenz 1959; Würdinger 1970)—one must assume that no strong pair bond existed as yet between the participants. In all seven cases where I observed this pattern of behavior, the participants ended as pairs with strong triumph calling relationships prior to nesting. Of the four pairs that nested which emerged from the study geese, three pairs were first involved in this serial aggression/inciting behavior, with at least two, and in one case three, separate observations of this behavior per pair. These observations led me to believe that female Canada geese sometimes use true inciting behavior to test the male's fitness during mate selection and do so prior to both pair bond formation and the pair bond reinforcement of triumph ceremonies.

Lack of preexisting pairs and joint aggression within the marked, even age study flock made it possible to observe inciting and recognize it as separate from coordinated family/sibling aggression between groups. This pattern of female directed aggression at the time of pair formation conforms to the description of unritualized inciting in ducks (Lorenz 1951–53). Knowledge of age and pair status of marked individuals made it possible to know that this aggressive behavior had some part in the pair formation process—thus, fit the definition of inciting.

Several prior studies have reported

"inciting-like" behavior in Canada geese, but not true inciting. Radesater (1974) reported that male Canada geese were more likely to attack geese threatened by the female than other geese, especially when the attack was closely associated with the triumph ceremony. He considered this conduct "an interesting similarity to the inciting behavior of ducks." In another example, Raveling (1967:58) described 14 successive aggressive attacks by one male as follows:

> The female 1/4 to 1/2 body length ahead of the male . . . regularly initiated intense chases toward other geese whereupon the male charged past the female in intense attack. It often appeared as if the female was choosing which geese were to be attacked and by her forward movement she incited the male to do the attacking.

He reported that all such chases were followed by intense, short triumph ceremonies, short because the female was off chasing another goose again. He referred to the entire process as a specialized continuous triumph ceremony. Since the geese were using partial triumph ceremonies—albeit brief—this may indicate these to be examples from late in the pair formation process. Yet, this is an almost classic description of inciting as it is done by ducks and geese of the genus *Anser*. Both authors were apparently reluctant to say the behavior actually was inciting. Without marked individuals, and within a mixed age flock with sibling and family aggression to confound matters, they may not have been positive enough of what they saw to risk challenging accepted ideas about inciting.

As a last comment on why inciting wasn't recognized earlier as a mate selection strategy for Canada geese, I think it is fair to say that most past research centered on nesting geese and nesting success. Little attention was focused on the nonbreeding segment of the population in such studies, and this is where inciting would be most likely to occur and be recognizable.

Conclusions

Under proper study conditions it is possible to observe inciting behavior as part of the initial pair formation process of Canada geese. Such a system is only applicable to assess male aggressive abilities—hence ability to defend the nest and goose—in a family free and pair free environment, or if the female restricts her inciting to unpaired individuals, since single males are subordinate to all pairs and families (Raveling 1967).

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Hummingbird *by Ed Boerner*

A Reevaluation and Synthesis of Pair Formation Strategies and Mate Selection Criteria of Canada Geese

The author lists and discusses five strategies for mate selection in Canada Geese.

by Philip C. Whitford

Within Canada geese, *Branta canadensis,* mate selection criteria are poorly understood. Geese are monomorphic in coloration and evidence little size dimorphism except in the largest subspecies. Males lack conspicuous plumage characteristics for females to base choice upon. Johnsgard (1965) stated that delayed maturity, long pair bond, monogamy and hatching area fidelity have led to reduced distinctiveness in male appearance and mate selection behavior making it difficult to observe the process.

Several researchers have offered possible explanations of pair formation processes for the Canada geese. Johnsgard (1965) stated that pair formation is difficult to observe since it usually occurs only once in a goose's lifetime. Quoting Heinroth's (1911) description for *Anser,* Johnsgard (1965, 1968) described the pair formation process for all geese as "the male assuming a haughty posture and swimming away from the female, his hindquarters raised higher than usual to display the undertail coverts." If the female followed, selection was considered complete and the pair bond begun. One can find little means for the female to assess the male in such a display. Indeed, as stated, such a display might mark the completion of the selection process, but not necessarily the selection process itself. Collias and Jahn (1959) working with *B. c. maxima,* the giant Canada Goose, concluded mate selection and pairing were dependent upon; (1) "*specific preferences*" of one bird for another, indicated by following of a specific individual; and (2) "*dominance relations,*" as expressed by defense of the female. They described pair formation as a gradual and poorly understood process with geese that became pairs spending increasing amounts of time together and separated from the group. Van Wormer (1968) stated that courtship and pair formation in geese are a function of battles between males for the same female. This description was derived from Audubon's (1840) account of horrific battles among captive males

within a small pen, reprinted in Bent (1951; 205) and Williams (1967). Two years of intense observation of spring behavior of geese convinced me that these extended breeding season fights are products of very confined captive environments where one male cannot escape the nesting territory of an established pair (Whitford 1987).

Who is most likely to do the actual mate selecting? In all probability the female, as a result of her greater energetic investment in eggs and incubation. This idea is consistent with the current ethological theory that relative parental investment determines which sex is responsible for mate selection (Trivers 1972). This view contradicts the hypothesis of "male selection of a female with plumage similar to the male's parents traits" in snow/blue geese polymorph complex (*Anser caerulescens rossi/Anser caerulescens*) as proposed by Cooke et al. (1972). It also contradicts MacInnes' (1966) conclusions about mate selection in populations of Canada geese, both *B. c. hutchinsii* and *B. c. parvipes.* He concluded that mating was assortative and felt males selected smaller females as mates, based on evidence that males were consistently larger than the female in any given pair, though larger females were available in the population. A simple reversal of selector gender and criteria might correct the contradiction (I.E. females selected larger males) and be valid based on the same data. Though both these studies offer some potential criteria for mate selection they still do not explain the mechanisms and possible strategies of the pair formation process of Canada geese.

Numerous studies have reported incidental information about replacement of mates following loss of a pair member and many of our ideas about pair formation are derived from such observations. But, despite prior assumptions to the contrary, we must consider that selection strategies used to replace lost mates may differ from those used under other circumstances. In the best known study of mate replacement Kossack (1950) removed one member of pairs to study repairing in captive Canada geese. He reported that repairing required 16 to 63 days and involved prolonged association prior to the first signs of pairing. When the breeding season was near, less time elapsed before obtaining a new partner. Collias and Jahn (1959) reported one case during nesting season in which only 10 days elapsed before remating of a female after loss of the mate. Sherwood (1966), working with semi-wild *B. c. maxima,* reported that previously paired females returning to the breeding grounds without mates paired in as little as 24 hours. He described the pair formation process as "subdued and not discernable." In all these studies none of the authors really addressed the question of how pair formation was accomplished and what criteria females used to assess male "fitness" or potential quality as a mate.

There is no consensus about the age of Canada geese at first pair formation. Many authors report yearling pair formation (Naylor 1953; Surrendi 1970; Wood 1965) with or without actual nesting attempts. All my study geese paired as two year olds—though there is no way to know if they had formed yearling pairs earlier (Whitford preceding paper). Nesting and rearing of young by two-year-old geese varied between studies from 75% (Sherwood 1966), 33% (Craighead and Stockstad

1964), to 0% in a densely nesting captive situation (Wood 1964). In the wild, all three year olds were reported to nest (Martin 1964), though other studies indicated 6–22% nonbreeding adults within wild populations (MacInnes et al. 1974).

The exact location where first pair formation occurs also remains uncertain. Some authors believe pairs form on the wintering grounds (Delacour and Mayr 1945; Hanson 1965; Klopman 1958); others state pair formation begins on the breeding grounds (MacInnes 1966). These differences may be in part due to subspecies variation or nesting density influences.

To some extent attempts to interpret goose pair formation processes may have been handicapped by past ideas about goose behavior—namely that geese are monogamous, that they pair for life (both statements attributable to Bent 1951), and that Canada geese do not incite as a means of mate selection (Johnsgard 1965, 1975). However, despite repetition of these statements, numerous studies have shown that: Canada geese are not always monogamous (Balham 1954; Brakhage 1965; Collias and Jahn 1959; Klopman 1958; Kossack 1950; and Whitford 1987); geese re-pair after losing a mate (Balham 1954; Collias and Jahn 1959; Sherwood 1966; Kossack 1950; Weigand et al. 1968); and occasionally members of pairs sometimes change mates in successive years even though both members of the pair survive (MacInnes et al. 1974; Zicus 1984).

Accepting that the following are true with regard to pair formation: 1) mating among geese is assortative (MacInnes 1966); 2) that initial breeding varies but occurs at some point between the first and third years (Hanson 1965); 3) geese are not always monogamous; 4) geese re-pair after the loss of a mate (Kossack 1950); 5) females do evidently incite during mate selection (Whitford preceding paper); 6) and that pair formation is reported both from the wintering grounds (Balham 1954) and from the breeding grounds (MacInnes 1966), can one find any pattern that will reconcile all these diverse observations to provide a single answer to the question of when and how geese choose a mate? In the past conflicting theories were advanced by authors studying different populations, under different conditions. All sought a single, definitive answer. Reviewing the conclusions of those studies and adding observations from my own research suggests an alternative hypothesis may provide a better model of pair formation, one where geese may employ not one, but several, means of choosing a mate. The means employed may vary with the age of the birds, the time of year, the availability of potential mates and, in cases of repairing, the time at which the first mate was lost. Thus, the new hypothesis is based on multiple mate selection/pair formation strategies, each applicable to a separate set of social, environmental or temporal conditions.

Female nest desertion is a major cause of reproductive failure in Canada geese *Branta canadensis* (Sherwood 1966; Wood 1964) and commonly results from inadequate male defense of the female and nest during laying and incubation (Cooper 1978). How can the female best assess the male as a potential defender and partner? Which options would work best under a given set of conditions? The list of

possible assessment options includes some or all of the following:

1) past nesting success with the male, if they have been paired previously;
2) test pairing and territorial defense as yearlings before reaching actual reproductive age;
3) inciting the male to participate in aggression and demonstrate his dominance/aggressive ability, a strategy that should work only in a group of like-aged, unpaired birds because paired birds and families are dominant to unpaired birds (Hanson 1965; Raveling 1967);
4) long association with the male within a nonfamily flock where she has the opportunity to assess the male's relative dominance position;
5) when time is short and most adult birds are already paired, she may accept either a male that is already paired or any available male of breeding age without active selection processes.

Probably the best means of assessing the male's potential as a mate would be success or failure of previous breeding seasons with him. Long term pair bonds of Canada geese have a second advantage in that established pairs begin nesting earlier than non-paired breeding ground arrivals (Balham 1954; Brakhage 1965); therefore they should have greater potential for renesting (Cooper 1978) and higher success at fledging young. Past success in breeding and rearing young should produce a high probability that they will remain together and breed again. Evidence of surviving pairs remaining together and rebreeding is common (Cooper 1978; Sherwood 1966) and supports this concept. Separation of pairs following unsuccesful breeding (Zicus 1984) also indirectly supports this idea.

However, the option of remaining paired still fails to answer the question of how mates were originally selected. Thus one must examine the time and circumstances of pairing in order to gain insight into the initial selection of a mate.

When and where does initial mate selection occur? If we accept the many reports of yearling pair formation (Martin 1964; Sherwood 1966; Surrendi 1970)—our second potential mate selection strategy, then initial mate selection must occur in the second spring of life. This is the time when yearlings are expelled from the family as the parents begin another breeding season. After expulsion, yearlings join into a like-aged, mixed-sex, mixed-parentage flock on the periphery of the breeding grounds (Sherwood 1966) or in other areas. If they form yearling pairs while in this flock, they may go on to defend territories that some researchers believe they use as breeding sites the following year (Cooper 1978; Naylor 1953). Wood (1964) claims these yearling pair bonds are as permanent as those of adults. Lorenz (1966) and Brakhage (reported in Raveling (1967) indicate that yearling pairs dissociate during the molt but often rejoin as true pairs the following spring. Since geese from a given breeding ground remain associated in subflocks on the wintering ground (Craven 1978; Raveling 1967) rejoining of yearling pair members is easily possible. Yearling pairs would be a very good mate assessment strategy. It would allow the female to assess a male's territorial defense ability and fi-

delity without loss of breeding potential, since as a yearling she would probably be immature (Wood 1965). Never-the-less, this still does not explain how the mate was initially chosen.

The third mate selection option, inciting, appears to be linked to test pairing and first-time breeding. Nesting, or simply claiming and defending a territory as yearlings, or as two-year-olds suggests that first-time mate selection often occurs within large, uniform-aged, non-family flocks of displaced yearlings or birds entering their first breeding season, and possibly in company with unpaired adults. Such a group would be the only situation in which females could incite to assess male aggressive potential without the confounding influences of family dominance structure. Raveling (1967) reported high levels of aggression among groups of yearlings in southern Illinois prior to the spring migration. As described in the previous paper, I observed multiple examples of what I believe to be inciting in what had been an all yearling flock, then entering their first breeding season as two year olds. Three of the pairs observed to incite formed permanent pairs and all evidenced triumph calling soon after these observations. Thus, it would appear that the males were being tested via inciting to assess their aggressive ability/dominance as a criteria indicative of relative merit as potential mates. This might be a good indicator of his ability to defend the goose from aggression of other geese while she is on the nest, and therefore a good criteria for assessment.

The fourth option for mate selection, prolonged association to permit assessment of the male, would be an effective strategy following loss of a mate and has been reported by both Kossack (1950) and Collias and Jahn (1959). Under such conditions unpaired birds often are in transient association or exist as a loose pair on the wintering grounds (Raveling 1967). Interaction with pairs, family groups and other unpaired geese, would provide a good basis for male assessment over time. Inciting would not, since the male could not be expected to attempt aggression against pairs or families. By following and remaining near an unpaired male a female would gain protection and access to food in proportion to the male's status within the unpaired and non-family group of geese. He might also gain by her presence since dominance is based on group size. Thus long term association with gradual pair formation would be an excellent mate selection strategy for adult females re-pairing or changing mates in fall and winter.

The final option for mate selection would be rapid repairing when a mate was lost just prior to, or early in, the breeding season. When a female arrives on the breeding grounds alone, the sex ratio is relatively even and most birds are already paired. She has two options if she is to realize any reproductive potential for the season: 1) mate with a bird already paired with another female or 2) rapidly pair with any available breeding age male. If the former, the female would have to share the male's nest defense with the other female. Nest defense is critical to nesting success and females often abandon poorly defended nests (Collias and Jahn 1959; Ewaschuk and Boag 1973). Yet Kossack (1950) reported a 2% rate of polygamous pairing in captivity, an observation supported for wild birds

by Klopman (1958), Sherwood (1966) and Cooper (1978).

A female probably is better off if the second strategy, accepting any unpaired male, is followed. At that point the energy investment of laying and incubation (both very costly to the female, Raveling 1979) of eggs of an untested male must be balanced against the need to begin nesting early enough to ensure fledging of the young. The most northerly breeding goose populations/subspecies arrive on the breeding grounds before snow melt and still do not have time to renest and fledge young if the first attempt fails. As a result the reported renesting rate of these populations is near zero (Cooch 1958; MacInnes 1962).

Being generally monogamous and forming long term pair bonds, most mature geese arrive on the breeding grounds as pairs. For unpaired adults on the breeding ground, inciting would serve little purpose because a lone male would always be subordinate to pairs present. Time is not available for long association. Under such circumstances we find reports of rapid pair formation and initiation of nesting in wild Canada geese (Sherwood 1966) and captive geese (Collias and Jahn 1959). Perhaps the best explanation of this behavior is expediency, opting for questionable breeding success with an unknown male rather than delaying and initiating breeding too late to permit fledging of the young. Questionable breeding success is often a better evolutionary strategy than guaranteed lost of a year's breeding potential.

Unpaired adults may also have the option of associating with and participating in the inciting of the yearling and/or two-year-old group. Such participation might partially explain the relatively high incidence of pair formation and mating between adults whose mates were lost and yearling and/or previously unpaired two-year-old birds (Wood 1965).

Why have the diverse mate selection strategies available to geese not been recognized as separate options earlier? Several explanations exist. First, past researchers sought a single strategy that fit limited observations from diverse populations of mixed-age geese. Second, under most conditions pair bonds remain stable and the initial pair formation process occurs only once in the life of the goose. Third, most observations were of repairing following loss of mates—which has several options for replacement depending on time of year of loss. Remating may be an extremely slow process culminating in triumph calling, or it may be precipitous if conditions warrant—occurring so rapidly that copulation and nest construction can occur on the day of pair formation (Sherwood 1966). Last, inciting was not readily recognizable in a mixed age flock. The actions of inciting are similar to those of paired aggression by siblings or true pairs, and were probably interpreted to be such since geese were believed not to incite.

Conclusions

The mate selection/pair formation strategies used by Canada geese may be influenced by the age and status of the pairing birds, availability of unpaired adults and the time available for selection before the breeding season. Presumably, maximum reproductive potential is maintained by flexibility in mate selection strategies and use of a

strategy appropriate to the time and circumstances of pair formation. Only further study of large, individually marked populations will finally determine whether all of these strategies are used within a given population, or by an individual bird, and which one may be the optimal strategy for any particular situation or age class.

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Stages of Desire

When once a hummingbird
Hovered amid fuchsia and impatiens
In the pre-dawn light,
The air was solid terrain and the breeze
A fluid mountain.

Along the interstate, hawks on telephone
Poles wait stoically for road kills.
If hawks have bent cars to their will,
What might owls do?

Masked bandits shake the elderberry.
Cedar waxwings flit and chatter
And make of sorry twigs a banquet.

A murder of crows wings across dusk,
Marauding specks of night whose
Arched wings soon fill the sky,
Gathering silken dark in a
Close tent of dreams.

Timothy Walsh—undated

Time-Activity Budgets of Trumpeter Swan Cygnets While Being Reintroduced to the Wild

A time-activity budget was constructed for a brood of 10 decoy-reared Trumpeter Swan cygnets during the period from 2 to 10 weeks of age. The time spent in different activities did not remain constant over the period; time spent moving and feeding increased as the cygnets got older, while time spent in comfort and resting activities decreased.

by Jennifer D. White

The Wisconsin Department of Natural Resources has been reintroducing Trumpeter Swans (*Cygnus buccinator*) to the State using a decoy-rearing technique (Abel and Temple 1994). During the rearing process, technicians have recorded daily activities of cygnets, but a quantitative time-activity budget for Trumpeter Swan cygnets during the reintroduction process has not been constructed. The construction of a time-activity budget was undertaken in order to establish patterns of time allocated to different activities in a brood of ten decoy-reared Trumpeter Swans.

Study Area and Methods

Swan eggs were collected in Alaska and hatched in incubators at the Milwaukee Zoo. Cygnets were imprinted on a decoy at the Milwaukee Zoo before being transported to the rearing site, Meadow Valley Wildlife Area in Juneau County, Wisconsin. Abel and Temple (1994) describe the imprinting and rearing process.

The study site was a shallow flowage bordered by dikes on two sides. Dominant wetland vegetation included: water lily (*Nymphaea odorata*), spike rush (*Elocharis* spp.), and bur reed (*Sparganium chlorocarpum*). Steeple bush (*Spirea tomentosa*), wool grass (*Scirpus cyperinus*), and reed canary grass (*Phalaris arundinacea*) were dominant shoreline plants. Spike rush, bur reed and waterweed (*Elodea canadensis*) were preferred foods for this brood.

Activities were divided into four categories following the methods of Hunter et al. (1985): (1) feeding (drinking, up-ending, and biting or

swallowing vegetation), (2) moving (searching for food, reacting to predators or siblings; following the decoy; and walking), (3) resting (sleeping and comfort movements such as shaking head, preening, and stretching), (4) miscellaneous (agonistic behavior, and investigating items other than food).

During the period 29 June to 20 August 1993 observations were recorded while concealed in a floating blind within 5 meters of the cygnets. During this period the cygnets spent approximately eight hours on the water each day. The cygnets wore plastic leg bands and were identified by band color, band number, and leg banded. Observations of activity were recorded at 30-second intervals, unless a cygnet was out of sight. Each cygnet was observed until ten activities were recorded (between five and ten minutes). Cygnets were observed in a random order until the activity of all cygnets in the brood had been recorded.

When unattended, cygnets stayed in a predator-proof cage where food and water were available to them. A commercial duck starter feed was kept in the cage until the cygnets were three weeks of age. After three weeks, the cage was stocked with commercial duck grower feed and aquatic plants (arrowhead [*Sagittaria* spp.], bur reed, spike rush, waterweed and pondweeds). No observations were made while birds were in the cage.

Results

The percent time cygnets spent in different activities is listed in Table 1 for ages two to ten weeks after hatch. Data from weeks four to ten weeks after hatch were plotted separately for each activity (Figs. 1 through 4) and all activities together (Fig. 5).

Feeding frequency (Fig. 1) increased during the study, from 43% during week two to 55% during week ten. The rate of increase was greatest during the first two weeks, after which feeding leveled off until it began rising again in week nine. Moving (Fig. 2) was constant for the first two weeks (10 to 9%), but at week four began increasing steadily to 29%. The time spent in resting and comfort activities (Fig. 3) declined steadily from 46 to 16%. Miscellaneous activities (Fig. 4) were infrequent (<1%) and remained constant throughout the study.

Discussion

Cygnets spent the majority of their time feeding (Fig. 5), and the time spent in this activity increased over the summer. This is not surprising since the energy demands of rapidly growing cygnets are great. Cygnets are also building up fat reserves for migration during late summer (Black and Owen 1990).

Although resting dropped continuously throughout the study, it was the second most common activity for much of the time (weeks 5 through 9). Initially, the decrease in time spent resting is offset by an increase in feeding (Fig. 5). Beginning at age six weeks, however, the decline in resting is mainly offset by an increase in moving. During the first few weeks on the water the cygnets would loaf 2 to 3 times per day with approximately one hour of feeding between loafing sessions. As the summer progressed, loafing sessions decreased and the time spent feeding between loafing sessions increased. Also, as the cygnets got older,

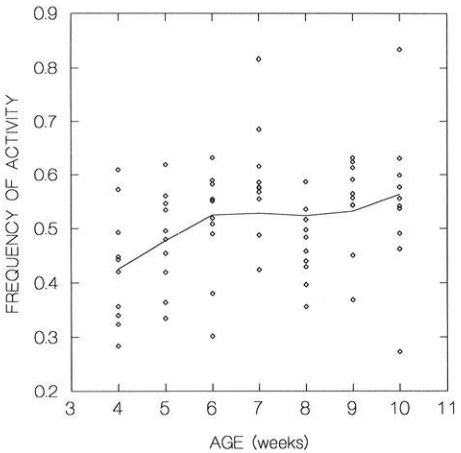

Figure 1. Frequency of feeding in 4 to 10 week old cygnets.

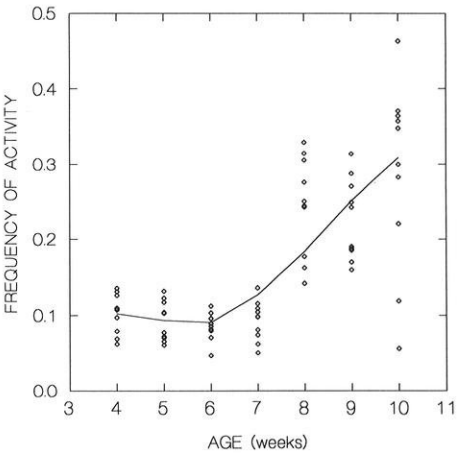

Figure 2. Frequency of moving in 4 to 10 week old cygnets.

part of the brood began resting on the water even though some of their brood-mates were busy eating.

Moving was the third most common activity until the eighth week when it became the second most common as cygnets began moving more than resting. When the cygnets were young they stayed in the general area of their favorite loafing site. The increase in moving at age 6 weeks is likely due to an increase in feeding and in foraging farther from the cage and main loafing site as food sources in the area were being depleted. As the cygnet's wings grew they began flight practice and wing exercises which contributed to the increase in moving in weeks eight and nine.

Hunter et al. (1984) found that Mallard (*Anas platyrhynchos*) and American Black Duck (*Anas rubripes*) ducklings spent between 22 to 28% of their time feeding, 34 to 43% moving, and 29 to 37% in resting and comfort activities. Ducklings spent less than 3% of their

Table 1. How cygnet activity budgets changed with age. Data for weeks 2 and 3 are problematic since observer was gaining skill making behavioral observations during this period.

Age in Weeks	Fraction of time spent:			
	feeding	moving	resting	miscellaneous
2	0.760	0.104	0.073	0.064
3	0.641	0.136	0.205	0.018
4	0.429	0.103	0.463	0.005
5	0.481	0.093	0.423	0.003
6	0.511	0.086	0.400	0.003
7	0.589	0.093	0.315	0.003
8	0.470	0.245	0.282	0.004
9	0.549	0.226	0.221	0.004
10	0.550	0.288	0.159	0.003

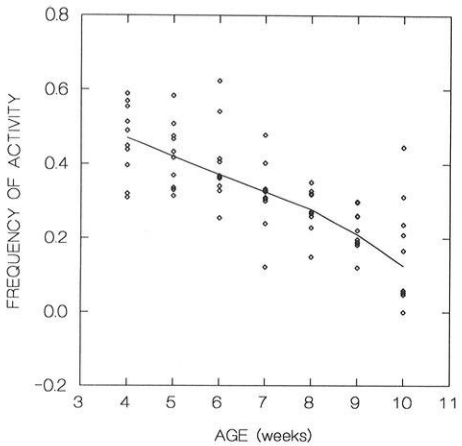

Figure 3. Frequency of resting in 4 to 10 week old cygnets.

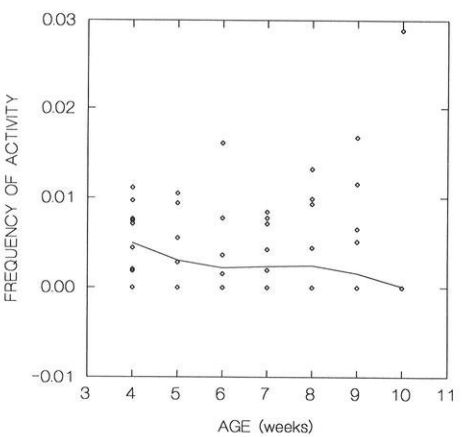

Figure 4. Frequency of miscellaneous activities in 4 to 10 week old cygnets.

time in miscellaneous activities. The small amount of time Mallard and Black Duck ducklings spend feeding compared with Trumpeter Swan cygnets may be due to the fact that they are mainly insectivorous (Reinecke 1979) while swans are herbivorous and, therefore, may need to spend relatively more time eating to meet daily

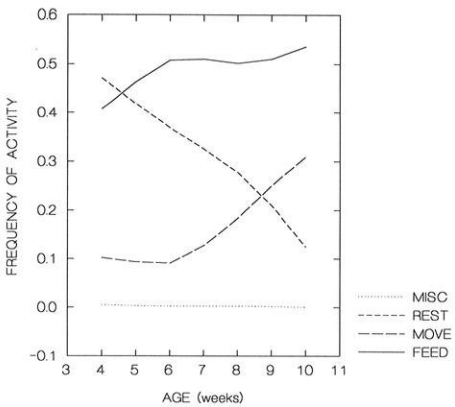

Figure 5. Activity budgets of 4 to 10 week old cygnets.

energy requirements. The low occurrence of miscellaneous activities for both ducklings and Trumpeter Swan cygnets is consistent with the observation that agonistic behavior within broods is infrequent (Hunter et al. 1985; Colgan 1983).

When normal activity patterns are understood it is easier to distinguish deviations in behavior that might be caused by environmental stress or illness (Abel and Grossman 1992; Hunter et al. 1984; O'Halloran et al. 1990). For example, Abel and Grossman (1992) observed a lead-poisoned Trumpeter Swan noting that it spent slightly less time feeding and more time drinking than other swans and that it did not respond to the head-bobbing of other birds. These observations are particularly important when reintroducing an endangered species where environmental stress or illness can lead to mortality.

Acknowledgements

I recorded the behavior of cygnets while working as an intern with the

DNR's Bureau of Endangered Resources and the University of Wisconsin-Madison. I am grateful for the help provided by John R. Cary in preparing the graphs and by Dr. Stanley A. Temple for reviewing the manuscript. I am also grateful for the support of field supervisor, Rebecca Christoffel, and fellow interns on the decoy-rearing project.

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Scarlet Tanager *by Ed Boerner*

The Fall Season: 1993

by Mark S. Peterson

The flooding rains that were in the news for most of the summer were mostly over in Wisconsin by the time the fall birding season arrived. While the floods continued in Illinois, Iowa, and Missouri, the landscape slowly dried further north.

August was a moist, but unremarkable month. A wet period occurred between the 9th and 15th. A high of 97 degrees was reached in Beloit on the 26th, while a low of 33 was recorded in Lake Thompson on the 21st.

September was more interesting in both the weather and bird migration. In Douglas County, Semo reported frost from the 6th to the 8th, with flurries and snow squalls from the 28th to the 30th. Frost was also reported in Portage and Shawano Counties on the 11th. A hard freeze occurred in a large portion of the state on the 30th. A high of 87 degrees was reported in Lone Rock on the 12th and a low of 16 degrees was reported in Lake Thompson on the 30th. Tessen found 17 species of warblers in Ozaukee County on the 18th and Ashman found 15 species of warblers in Dane County on the 27th.

October continued a progression toward what would eventually be a long, cold winter. Another hard freeze occurred in most of the state on the 2nd. 1″ of snow was reported in Douglas County on the 8th, up to a food in Hurley on the 29th and 30th, and 6″ in Door County on the 30th and 31st. A high of 87 degrees was reported in New Holstein on the 7th and a low of 11 degrees in Phillips on the 31st.

The weather in November was typical of most Novembers with alternating cold and mild periods and several significant snowfalls. 1–9″ of snow fell in the northern and central parts of the state on the 5th. Berner reported 6″ of snow in Portage County on the 25th and Semo reported up to 15″ in Douglas County on the same day. A high of 65 degrees was reported in Juneau and Milwaukee on the 13th. Semo reported a low of −10 degrees in Douglas County on the 27th.

Two birds of note offer interesting comparisons on the documentation received from 14 observers on each. The first of these was the state's first record of a Phainopepla. This bird spent a little over a week in Grant Park in Milwaukee County from October 31 to

November 7. Apparently just about every birder in the state who had the time and desire to see this bird went to see it. The other was a Red Phalarope that spent about a week in late November in the vicinity of Bradford Beach in Milwaukee County. These two individuals will go down as two of the most studied and photographed birds ever to visit the state.

A total of 284 species were found by 84 observers during the fall season. Rarities reported during the season included: Red-throated Loon in Ozaukee County, Pacific Loon in Douglas County, Red-necked Grebe in Burnett, Columbia, Douglas, Green Lake, and Ozaukee Counties, Eared Grebe in Dane and Columbia Counties, American White Pelican in Brown, Door, La Crosse, St. Croix, and Vernon Counties, Snowy Egret in Brown and Douglas Counties, Little Blue Heron in Dodge County, Yellow-crowned Night-Heron in Dodge and Ozaukee Counties, Trumpeter Swan in Burnett, Columbia, Dane, Marathon, and Polk Counties, King Eider in Sheboygan County, Harlequin Duck in Manitowoc, Milwaukee, Ozaukee, and Sheboygan Counties, Swainson's Hawk in Walworth County, Golden Eagle in Jefferson, Monroe, Oconto, Ozaukee, and Sheboygan Counties, King Rail in Dodge County, Purple Gallinule in Milwaukee County, American Avocet in Dane and Dodge Counties, Willet in Dodge and Sheboygan Counties, Hudsonian Godwit in Dodge and Douglas Counties, Western Sandpiper in Columbia, Dodge, and Manitowoc Counties, Purple Sandpiper in Sheboygan County, Buff-breasted Sandpiper in Ashland, Dane, Dodge, Oconto, and Vernon Counties, Red-necked Phalarope in Dane and Dodge Counties, Red Phalarope in Door, Milwaukee, and Winnebago Counties, Parasitic Jaeger in Douglas County, little Gull in Manitowoc County, Thayer's Gull in Milwaukee and Sheboygan Counties, Great Black-backed Gull in Ozaukee County, Black-legged Kittiwake in Milwaukee County, Sabine's Gull in Douglas County, Black-backed Woodpecker in Douglas County, Carolina Wren in Dane, Jefferson, and Washington Counties, Phainopepla in Milwaukee County, Bell's Vireo in Dane and Richland Counties, Hooded Warbler in Dane, Shawano, and Washington Counties, Western Tanager in Price County, and Sharp-tailed Sparrow in Burnett County.

Reports (August 1–November 30, 1993)

Red-throated Loon.—Reported by Cowart in Ozaukee County on October 8.

Pacific Loon.—R. Johnson found one at Wisconsin Point in Douglas County on October 2. See "By the Wayside."

Common Loon.—Reported at the beginning of the period in Ashland, Barron, Bayfield, Douglas, Polk, and Price Counties. Lockwood found 20 in Dane County on November 13. Found at the end of the period in Dane and Green Lake Counties.

Pied-billed Grebe.—Found in scattered areas throughout the state at the beginning of the period. Bradley found 30 in Burnett County on August 11. Last reported by Ashman in Dane County on November 28.

Horned Grebe.—First reported by Bontly in Milwaukee County on September 17. Verch found 67 in Ashland and Bayfield Counties on October 5. Last reported by Robbins in Sheboygan County on November 30.

Red-necked Grebe.—First reported on August 11 in Burnett County by Bradley and in

Columbia County by Robbins. Semo found 5 in Douglas County on September 28. Last reported by Robbins in Ozaukee County on October 23. Also reported during the period in Green Lake County.

Eared Grebe.—Reported in Columbia County from the beginning of the period to August 8 by Lockwood, on August 11 by Robbins, on August 16 by Bradley, and on October 23 by Ashman, and by Robbins in Dane County on October 9.

American White Pelican.—Reported at the beginning of the period in La Crosse and Vernon Counties. Dankert found 240 in Vernon County on August 14. Last reported by Dankert in Vernon County on November 23. Also reported during the period in Brown, Door, and St. Croix Counties.

Double-crested Cormorant.—Found at the beginning of the period south to Vernon, Dodge, and Washington Counties. Boldt found 600 in Dodge County on August 26. Reported at the end of the period in Oconto and Winnebago Counties.

American Bittern.—Reported at the beginning of the period in Ashland, Bayfield, Douglas, Langlade, Oconto, Price, and Washington Counties. Last reported by Diehl in Milwaukee County on October 27.

Least Bittern.—Reported at the beginning of the period in Oconto County by the Smiths. Last reported by Burcar in Dodge County on August 13.

Great Blue Heron.—Found throughout the state at the beginning of the period. The LaValleys found 16 in Douglas County on September 29. Reported at the end of the period in Dane and Washington Counties.

Great Egret.—Reported at the beginning of the period in Dodge, LaCrosse, Outagamie, Polk, Vernon, Washington, and Winnebago Counties. Robbins found 75 in Dodge County on September 9. Last reported by Burcar in Dodge County on November 23.

Snowy Egret.—Reported by Tessen in Brown County on August 8 and in Dodge County on August 10, September 6 and 23 by Boldt, on September 10 by Strelka, on September 11 by Burcar and Tessen, and on September 25 by Mueller.

Little Blue Heron.—Reported on Ledge Road in the Horicon National Wildlife Refuge in Dodge County on August 7 and September 23 by Boldt, on August 15 by Stedman, on August 23 by Soulen, on August 28 by Burcar, on August 30 by Peterson, and on September 6 by Tessen.

Cattle Egret.—First reported on August 8 in Brown County by Tessen and in Dodge County by Haseleu. Domagalski found over 100 in Dodge County on September 12. Last reported by Erdman in Oconto County on October 24. Also reported during the period in Washington County.

Green-backed Heron.—Found throughout the state at the beginning of the period. Domagalski found 11 in Washington County on August 28. Last reported by the Brassers in Sheboygan County on October 22.

Black-crowned Night-Heron.—Reported at the beginning of the period in Dodge, Door, Manitowoc, Oconto, Washington, and Winnebago Counties. The Smiths found 22 in Oconto County on August 8. Last reported on October 30 in Winnebago County by Ziebell.

Yellow-crowned Night-Heron.—Reported by Green in Ozaukee County on August 11 and by Boldt in Dodge County on August 26.

Tundra Swan.—First reported by Dee in Door County on September 22. Richter reported a maximum of over 3000, date and place not given. Berger reported 270 in Sheboygan County on November 6. Reported at the end of the period north to Sheboygan, Winnebago, and La Crosse Counties.

Trumpeter Swan.—Reported by Bradley in Burnett County on August 11, by Lockwood in Columbia County on November 11, by Robbins in Dane County on November 5 and 17, by Belter in Marathon County on August 14 and September 22, and by Hudick in Polk County from the beginning of the period to November 26.

Mute Swan.—Found at the beginning of the period in Ashland, Bayfield, Dane, and Douglas Counties. Verch found 4 in Ashland and

Bayfield Counties on October 26 and Domagalski found 4 in Washington County on November 27. Reported at the end of the period in Dane, Douglas, and Washington Counties.

Snow Goose.—First reported by the Smiths in Oconto County on September 15. The LaValleys found 86 in Douglas County on September 28. Reported at the end of the period in Columbia County by Burcar.

Canada Goose.—Found throughout the state during the period. Berner found 5300 in Portage County on September 15.

Wood Duck.—Reported throughout the state at the beginning of the period. Berner found 91 in Portage County on October 22. Last reported by Peterson in Shawano County on November 29.

Green-winged Teal.—Reported at the beginning of the period in Barron, Langlade, Washington, and Wood Counties. Ashman found 75 in Dane County on October 3. Last reported by Ashman in Dane County on November 27.

American Black Duck.—Found at the beginning of the period in Ashland, Barron, Bayfield, Douglas, Manitowoc, Milwaukee, and Winnebago Counties. Verch found 77 in Ashland and Bayfield Counties on November 9. Found in scattered areas throughout the state at the end of the period.

Mallard.—Reported throughout the state during the period. Ashman found 1000 in Columbia County on November 20.

Northern Pintail.—First reported by Boldt in Dodge County on August 7. Verch found 8 in Ashland and Bayfield Counties on September 25. Last reported on November 20 by Ashman in Columbia County and by Dankert in Vernon County.

Blue-winged Teal.—Found in scattered areas throughout the state at the beginning of the period. Ashman found 80 in Dane County on September 12. Last reported by Ashman in Dane County on November 27.

Northern Shoveler.—Reported at the beginning of the period in Barron and Dane Counties. Ashman found 140 in Dane County on November 9. Reported at the end of the period in Dane County by Ashman, Lockwood, and Robbins.

Gadwall.—First reported by the Smiths in Oconto County on August 8. Ashman found 60 in Dane County on November 9. Reported at the end of the period in Dane County by Ashman, Burcar, Lockwood, and Robbins.

American Wigeon.—First reported by Boldt in Dodge County on August 7. Tessen found 125 in Manitowoc County on October 24. Reported at the end of the period in Dane and Green Lake Counties.

Canvasback.—First reported by Boldt in Dodge County on August 7. Lockwood found 40 in Columbia County on October 31. Reported at the end of the period in Dane, Vernon, and Winnebago Counties.

Redhead.—Reported at the beginning of the period in Columbia County by Ashman. Ashman found 27 in Columbia County on October 6. Found at the end of the period in Dane, Green Lake, and Oconto Counties.

Ring-necked Duck.—Found at the beginning of the period in Barron, Columbia, Douglas, and Wood Counties. Ashman found 700 in Columbia County on October 30. Reported at the end of the period in Dane, Door, and Washington Counties.

Greater Scaup.—First reported by Hall in Milwaukee County on August 18. On October 24 Tessen found 500 in Manitowoc County and 500 in Ozaukee County. Found at the end of the period in Door, Manitowoc, Milwaukee, Sheboygan, and Winnebago Counties.

Lesser Scaup.—First reported by Hall in Milwaukee County on August 3. Verch found 352 in Ashland and Bayfield Counties on November 2. Reported at the end of the period in Dane, Manitowoc, Milwaukee, Washington, and Winnebago Counties.

Scaup Sp.: Schultz found 10,000 in Ozaukee County on October 17.

King Eider.—A female was found by Tessen and Wood on November 28 and was seen

the next day by Baughman, Boldt, the Brassers, and Schultz in Sheboygan. See "By the Wayside."

Harlequin Duck.—First reported by Mueller in Ozaukee County on October 15. The Brassers and Tessen found 3 in Sheboygan County on November 14. Last reported on November 29 in Milwaukee County by Bontly and Strelka. Also reported during the period in Manitowoc County.

Oldsquaw.—First reported on October 2 in Sheboygan County by the Brassers. Hoffman found 7 in Kenosha County on November 9. Reported at the end of the period in Milwaukee and Sheboygan Counties.

Black Scoter.—First reported by Verch in Ashland and Bayfield Counties on September 21. Verch found 8 in Ashland and Bayfield Counties on September 28 and Tessen found 8 in Ozaukee County on October 30. Last reported by Polk in Chippewa County on November 14.

Surf Scoter.—First reported on September 26 by Cowart in Ozaukee County and by Tessen in Manitowoc County. Ashman found 16 in Ozaukee County on October 5. Last reported by Tessen in Sheboygan County on November 28.

White-winged Scoter.—First reported by Verch in Ashland and Bayfield Counties on September 21. Schultz found 25 in Ozaukee County on October 17. Last reported by Robbins in Sheboygan County on November 30.

Common Goldeneye.—Reported at the beginning of the period in Door County by the Lukes. Frank found 500 in Ozaukee County on November 6. Found in scattered areas throughout the state at the end of the period.

Bufflehead.—First reported by Tessen in Dodge County on August 22. Robbins found 200 in Dane County on November 17. Found at the end of the period north to Oconto and Door Counties.

Hooded Merganser.—Found at the beginning of the period in Ashland, Barron, Bayfield, Douglas, Manitowoc, and Polk Counties. Ashman found 100 in Dane County on November 9. Reported at the end of the period in Dane, La Crosse, and Winnebago Counties.

Common Merganser.—Reported at the beginning of the period in Douglas and Pierce Counties. Nussbaum found 720 in Winnebago County on November 18. Found at the end of the period in scattered areas throughout the state.

Red-breasted Merganser.—Found at the beginning of the period in Ashland, Bayfield, and Door Counties. Schultz found 1000 in Ozaukee County on October 17. Reported at the end of the period in scattered areas throughout the state.

Ruddy Duck.—Reported at the beginning of the period in Columbia, Dane, and Dodge Counties. Ashman found 43 in Dane County on November 17. Found at the end of the period in Dane County by Ashman, Burcar, and Lockwood.

Turkey Vulture.—Found at the beginning of the period north to Douglas, Langlade, and Door Counties. Epstein found 45 in Monroe County on September 26. Last reported by Epstein in Monroe County on November 6.

Osprey.—Reported at the beginning of the period in Barron, Dane, Door, Polk, Portage, and Shawano Counties. Cowart found 25 in Ozaukee County on September 9. Last reported by Hall in Dodge County on November 17.

Bald Eagle.—Reported at the beginning of the period south to Pierce, Dunn, Portage, and Door Counties. Erdman found 14 in Oconto County on September 18. Found at the end of the period south to Vernon, Green Lake, and Winnebago Counties.

Northern Harrier.—Found at the beginning of the period south to Pierce, Wood, Portage, and Washington Counties. Berger found 10 in Sheboygan County on October 2. Reported at the end of the period in Oconto and Sheboygan Counties.

Sharp-shinned Hawk.—Reported at the beginning of the period south to Dane County. Cowart found 370 in Ozaukee County on September 28. Found at the end of the period in Barron, Dane, and Door Counties.

Cooper's Hawk.—Found at the beginning of the period south to Dane and Washington Counties. Berger found 23 in Sheboygan County on October 2. Reported at the end of the period north to Polk, Portage, and Outagamie Counties.

Northern Goshawk.—Reported at the beginning of the period in Ashland, Bayfield, Door, and Douglas Counties. Berger found 6 in Sheboygan County on November 20. Found at the end of the period south to La Crosse, Oconto, and Door Counties.

Red-shouldered Hawk.—Reported at the beginning of the period in Dunn, Outagamie, Polk, Washington, and Wood Counties. Berger found 6 in Sheboygan County on October 29. Last reported by Anderson and Petznick in Outagamie County on November 24.

Broad-winged Hawk.—Found at the beginning of the period in Ashland, Barron, Bayfield, Door, Douglas, Langlade, and Milwaukee Counties. Erdman found 18,684 in Oconto County on September 18. Last reported by Anderson and Petznick in Outagamie County on October 29.

Swainson's Hawk.—Tessen found one in Walworth County on October 11.

Red-tailed Hawk.—Reported at the beginning of the period north to Douglas, Bayfield, Ashland, Langlade, Oconto, and Door Counties. Cowart found 248 in Ozaukee County on October 30. Reported at the end of the period north to Douglas, Oconto, and Door Counties.

Rough-legged Hawk.—First reported in Douglas County on August 19 by the LaValleys. Berger found 7 in Sheboygan County on November 5 and Kuecherer found 7 in Monroe County on November 21. Found at the end of the period north to Douglas, Oconto, and Door Counties.

Golden Eagle.—First reported on October 17 in Monroe County by Epstein. Last reported by Epstein in Monroe County on November 27. Also reported during the period in Jefferson County by Hale, in Oconto County by Erdman and the Smiths, in Ozaukee County by Cowart, and in Sheboygan County by Berger.

American Kestrel.—Found throughout the state at the beginning of the period. The Smiths found 22 in Oconto County on August 1. Reported at the end of the period north to Polk, Barron, Oconto, and Door Counties.

Merlin.—Reported at the beginning of the period in Ashland, Bayfield, Door, and Douglas Counties. Berger found 105 in Sheboygan County on October 1. Last reported by Cowart in Ozaukee County on November 19.

Peregrine Falcon.—Reported at the beginning of the period in La Crosse County by Dankert. Cowart found 17 in Ozaukee County on September 26. Last reported by Cowart in Ozaukee County on October 24.

Gray Partridge.—The only report during the period was from Domagalski in Washington County.

Ring-necked Pheasant.—Found during the period north to Polk, Barron, Marathon, Oconto, and Door Counties. Ashman found 21 in Columbia County on August 14.

Ruffed Grouse.—Reported during the period south to Richland and Dane Counties. Berner found 7 in Portage County in August 13.

Greater Prairie-Chicken.—Found during the period in Burnett, Marathon, and Portage Counties. Berner found 70 in Portage County on November 12.

Sharp-tailed Grouse.—Reported during the period in Douglas County by the LaValleys.

Wild Turkey.—Reported during the period north to Polk, Florence, and Door Counties. Duerksen found 17 in Richland County on November 29.

Northern Bobwhite.—Found during the period in Monroe and Richland Counties. Duerksen found 18 in Richland County on November 4.

King Rail.—Tessen found one in Dodge County on August 28.

Virginia Rail.—Reported at the beginning of the period in Dane, Dodge, Shawano, and Washington Counties. Lockwood found 3 in Co-

lumbia County on August 8. Reported at the end of the period in Dane County by Ashman.

Sora.—Found at the beginning of the period in Barron, Dane, Dodge, Shawano, Sheboygan, and Washington Counties. Last reported by Burcar in Dane County on October 1.

Purple Gallinule.—Diehl reported that one was found near the Milwaukee River in Milwaukee by John Jonas on October 16. This injured bird survived only a few days. See "By the Wayside."

Common Moorhen.—First reported by Boldt in Dodge County on August 7. The Smiths found 11 in Oconto County on September 6. Last reported by Robbins in Dodge County on October 9.

American Coot.—Found at the beginning of the period in Barron, Columbia, Dane, Manitowoc, Shawano and Winnebago Counties. Ashman found 800 in Dane County on October 19. Reported at the end of the period in Dane County by Ashman, Burcar, and Robbins.

Sandhill Crane.—Reported at the beginning of the period throughout the state. Hale found 839 in Jefferson County on November 17. Last reported by Parsons in Walworth County on November 20.

Black-bellied Plover.—First reported by Lockwood in Columbia County on August 2. Boldt found 83 in Dodge County on October 5. Last reported on November 16 in columbia County by Ashman and in Dodge County by Hall.

Lesser Golden Plover.—First reported by Peterson in Shawano County on August 11. Ashman found over 100 in Dodge County on October 19. Last reported on November 11 by Lockwood in Columbia County and by Tessen in Dodge County.

Semipalmated Plover.—Reported at the beginning of the period in Shawano County by Peterson. Tessen found 25 in Milwaukee County on September 6. Last reported by Mueller in Kewaunee County on October 31.

Killdeer.—Found throughout the state at the beginning of the period. Domagalski found 241 in Washington County on August 25. Last reported by Cowart in Milwaukee County on November 24.

American Avocet.—Burcar found one in Dane County on August 22 and Strelka found one in Dodge County on September 10.

Greater Yellowlegs.—Found at the beginning of the period in Oconto County by the Smiths. Tessen found over 100 in Dodge County on September 6. Last reported by Burcar in Dodge County on November 4.

Lesser Yellowlegs.—Reported at the beginning of the period in Columbia, Dane, and Washington Counties. Boldt found 160 in Dodge County on August 11. Last reported by Ziebell in Winnebago County on November 5.

Solitary Sandpiper.—Reported at the beginning of the period in Columbia, Dane, La Crosse, Polk, Portage, Shawano, Walworth, and Washington Counties. Berner found 17 in Portage County on August 5. Last reported by Domagalski in Washington County on October 10.

Willet.—Reported by Boldt in Dodge County on August 15 and 18 and by the Brassers in Sheboygan County on August 19.

Spotted Sandpiper.—Found throughout the state at the beginning of the period. Sontag found 9 in Manitowoc County on August 27. Last reported by Boldt in Dodge County on October 23.

Upland Sandpiper.—Reported at the beginning of the period in Door and Langlade Counties. Last reported by the Lukes in Door County on September 4.

Hudsonian Godwit.—Reported by Tessen in Dodge County on September 6 and by the LaValleys in Douglas County on September 18.

Ruddy Turnstone.—First reported by Ashman in Dane County on August 3. Sontag found 3 in Manitowoc County on September 15. Last reported by R. Johnson in Douglas County on October 9.

Red Knot.—First reported by Boldt in

Dodge County on August 18. Last reported by Robbins in Dodge County on October 9. Also reported during the period in Manitowoc and Milwaukee Counties.

Sanderling.—Found at the beginning of the period in Manitowoc and Sheboygan Counties. Mueller found 32 in Milwaukee County on September 13. Last reported by Sontag in Manitowoc County on November 20.

Semipalmated Sandpiper.—Reported at the beginning of the period in Columbia, Dane, and Douglas Counties. Boldt found 50 in Dodge County on August 11. Last reported by Robbins in Dodge County on October 9.

Western Sandpiper.—First reported by Stedman in Dodge County on August 16. Sontag found 3 in Manitowoc County on September 15 for the latest report. Also reported by Tessen in Dodge County on August 22, by Robbins in Columbia County on August 27, and also by Robbins in Dodge County on September 3.

Least Sandpiper.—Reported at the beginning of the period in Columbia, Dane, La Crosse, Portage, Shawano, and Washington Counties. Boldt found 70 in Dodge County on August 11. Last reported by Burcar in Dane County on October 18.

White-rumped Sandpiper.—First reported by Robbins in Columbia County on August 11. Last reported by Sontag in Manitowoc County on October 17.

Baird's Sandpiper.—First reported by Semo in Douglas County on August 2. Lockwood found 14 in Dane County on August 30. Last reported by Burcar in Dane County on November 9.

Pectoral Sandpiper.—Found at the beginning of the period in Dane, Douglas, and Washington Counties. Boldt found 202 in Dodge County on September 10. Last reported by Dankert in Vernon County on November 13.

Purple Sandpiper.—One was found by Brasser in Sheboygan County on November 12. See "By the Wayside."

Dunlin.—First reported by Hall in Milwaukee County on August 25. Boldt found 100 in Dodge County on October 12. Last reported by Tessen in Dodge County on November 11.

Stilt Sandpiper.—First reported by R. Johnson in Douglas County on August 7. Tessen found 125 in Dodge County on August 22. Last reported by Robbins in Dodge County on October 9.

Buff-breasted Sandpiper.—Reported by Schultz in Ashland County on August 30, by Dankert in Vernon County on September 1, by Lockwood in Dane County on September 5, by Tessen in Dodge County on September 6, and by the Smiths in Oconto County on September 12.

Short-billed Dowitcher.—Reported at the beginning of the period in Dane County by Lockwood. Tessen found 50 in Dodge County on August 28. Last reported on September 11 in Dodge County by Burcar and Tessen.

Long-billed Dowitcher.—First reported by Boldt in Dodge County on August 7. Boldt found 125 in Dodge County on August 26. Last reported by Burcar in Dodge County on November 4.

Common Snipe.—Found in scattered areas throughout the state at the beginning of the period. Tessen found over 30 in Dodge County on August 22. Last reported by Dankert in Vernon County on November 6.

American Woodcock.—Reported at the beginning of the period in scattered areas throughout the state. Last reported on October 26 by Verch in Ashland/Bayfield Counties.

Wilson's Phalarope.—First reported by Boldt in Dodge County on August 7. Boldt found 6 in Dodge County on August 18, which was also the latest report.

Red-necked Phalarope.—First reported on August 21 in Dodge County by Boldt and Soulen. Last reported on September 11 Dodge County by Burcar, Peterson, and Tessen. Also reported during the period in Dane County.

Red Phalarope.—Reported on October 31 in Winnebago County by Nussbaum and Truax, on November 7 in Door County by Stover, and in Milwaukee County by numerous ob-

servers from November 25 to November 30. See "By the Wayside."

Parasitic Jaeger.—Semo reported 2 different individuals in Douglas County on September 7 and September 13.

Franklin's Gull.—Reported by Polk in Chippewa County on August 21.

Little Gull.—Reported by Sontag in Manitowoc County from the beginning of the period to August 18 with a maximum of 3 on August 11.

Bonaparte's Gull.—Found at the beginning of the period in Manitowoc and Sheboygan Counties. Diehl found 75 in Milwaukee County on November 26. Last reported by Tessen in Milwaukee County on November 28.

Ring-billed Gull.—Found throughout the state during the period. Hale found 10,000 in Jefferson County on November 1.

Herring Gull.—Found in scattered areas throughout the state during the period. The LaValleys found over 1000 in Douglas County on November 20.

Thayer's Gull.—Reported by Boldt in Milwaukee County on November 25 and in Sheboygan County on November 29.

Glaucous Gull.—First reported on September 19 in Douglas County by the LaValleys. Semo found 12 in Douglas County on November 30. Reported at the end of the period in Douglas County by R. Johnson, the LaValleys, and Semo.

Great Black-backed Gull.—Reported by Cowart in Ozaukee County on September 24.

Black-legged Kittiwake.—One was seen by Brown in Milwaukee County on August 17. See "By the Wayside."

Sabine's Gull.—R. Johnson found one in Douglas County on October 2. See "By the Wayside."

Caspian Tern.—Reported at the beginning of the period in Dane, Door, La Crosse, Manitowoc, Oconto, Polk, Sheboygan, and Winnebago Counties. The Brassers found 21 in Sheboygan County on August 19. Last reported by Bontly in Milwaukee County on October 25.

Common Tern.—Reported at the beginning of the period in Ashland, Bayfield, Door, Douglas, Manitowoc, Oconto, Sheboygan, and Winnebago Counties. The Smiths found 52 in Oconto County on August 8. Last reported by Dankert in Vernon County on October 8.

Forster's Tern.—Found at the beginning of the period in Manitowoc, Monroe, and Winnebago Counties. Sontag found 9 in Manitowoc County on August 17. Last reported by Mueller in Dodge County on September 25.

Black Tern.—Found in scattered areas throughout the state at the beginning of the period. Domagalski found 15 in Washington County on August 29. Last reported by Domagalski in Washington County on September 16.

Rock Dove.—Found throughout the state during the period. Belter found over 600 in Marathon County on October 28.

Mourning Dove.—Reported throughout the state at the beginning of the period. Domagalski found 403 in Washington County on August 18. Found at the end of the period north to Barron, Price, Langlade, Oconto, and Door Counties.

Black-billed Cuckoo.—Reported at the beginning of the period in Columbia, Door, Douglas, and Richland Counties. Last reported by the Lukes in Door County on September 26.

Yellow-billed Cuckoo.—Found at the beginning of the period in Douglas, Langlade, and Washington Counties. Last reported by Diehl in Washington County on October 18.

Eastern Screech Owl.—Reported during the period in Dane, Manitowoc, Milwaukee, Ozaukee, Portage, Richland, Sheboygan, Washington, and Winnebago Counties.

Great Horned Owl.—Found throughout the state during the period. Diehl found 4 in Milwaukee County on August 1.

Snowy Owl.—Quite an invasion of the spe-

cies was seen with many reports received. First reported by Sontag on October 25 when 3 were found in Manitowoc County. The LaValleys also found in Douglas County on November 28. Reported at the end of the period in Ashland, Bayfield, Door, Douglas, and Manitowoc Counties. Also reported during the period in Dane, La Crosse, Milwaukee, Ozaukee, Portage, Price, Shawano, and Sheboygan Counties.

Barred Owl.—Reported during the period south to Vernon, Richland, Dane, Jefferson, and Washington Counties. Cederstrom found 3 in Dane County on August 14.

Long-eared Owl.—Reported by Berger in Sheboygan County on October 9 and by the Smiths in Oconto County on October 31 and November 11.

Short-eared Owl.—Reported on August 1 in Douglas County by Semo fide Dave Evans, on October 17 in Ozaukee County by Bontly and Peterson, and in Ozaukee County on October 29 by Cowart.

Northern Saw-whet Owl.—First reported on September 23 in Oconto County by the Smiths and in Portage County by Jacobs. Jacobs reported 71 in Portage County on October 24. Last reported by Berger in Sheboygan County on November 22. Erdman and the Smiths caught over 900 in southern Oconto County during the period.

Common Nighthawk.—Found throughout the state at the beginning of the period. Hoffman saw 17,448 in Kenosha and Racine Counties on August 24. Last reported by Sontag in Manitowoc County on October 21.

Whip-poor-will.—Found at the beginning of the period in Door, Polk, and Washington Counties. Last reported by the Smiths in Oconto County on October 2.

Chimney Swift.—Reported throughout the state at the beginning of the period. Belter found over 250 in Marathon County on September 2, Domagalski found 251 in Washington County on September 11, and Cederstrom found 250 in Dane County on September 15. Last reported by Cowart in Ozaukee County on October 23.

Ruby-throated Hummingbird.—Reported at the beginning of the period south to Richland, Dane, Jefferson, and Washington Counties. Duerksen found 6 in Richland County on August 31. Last reported by Ziebell in Winnebago County on October 9.

Belted Kingfisher.—Found throughout the state at the beginning of the period. Sontag found 6 in Manitowoc County on August 17 and Domagalski found 6 in Washington County on August 28. Reported at the end of the period in Dane, Jefferson, Pierce, and Washington Counties.

Red-headed Woodpecker.—Reported at the beginning of the period north to Polk, Barron, Langlade, Oconto, and Door Counties. Berner found 7 in Portage County on September 19. Found at the end of the period in Green Lake, Monroe, and Wood Counties.

Red-bellied Woodpecker.—Reported during the period north to Polk, Barron, Bayfield, Ashland, Langlade, Oconto, and Door Counties. Ashman found 6 in Dane County on October 12.

Yellow-bellied Sapsucker.—Found at the beginning of the period south to Polk, Barron, Langlade, Oconto, and Door Counties. Lockwood found 4 in Dane County on October 2. Last reported by Sontag in Manitowoc County on October 18.

Downy Woodpecker.—Found throughout the state during the period. The Smiths found 9 in Oconto County on November 14.

Hairy Woodpecker.—Reported throughout the state during the period. The Smiths found 1 in Oconto County on November 27.

Black-backed Woodpecker.—Semo found a total of 8 in Douglas County from August 14 to November 12, and Soulen found one in Douglas County on October 19.

Northern Flicker.—Found throughout the state at the beginning of the period. Mueller found 15 in Ozaukee County on September 26. Reported at the end of the period in Dunn County by Raile.

Pileated Woodpecker.—Found at the beginning of the period south to Vernon, Rich-

land, Dane, and Waukesha Counties. Berner found 3 in Portage County on September 15.

Olive-sided Flycatcher.—First reported by Semo in Douglas County on August 12. Berner found 3 in Portage County on September 3. Last reported by Hudick in Polk County on September 17.

Eastern Wood-Pewee.—Found throughout the state at the beginning of the period. Domagalski found 19 in Washington County on August 11. Last reported by Strelka in Milwaukee County on October 12.

Yellow-bellied Flycatcher.—Reported at the beginning of the period in Price County by Hardy. Last reported by Berner in Portage County on September 5.

Acadian Flycatcher.—Found at the beginning of the period in Dane and Washington Counties. Domagalski found 7 in Washington County on August 2. Last reported by Domagalski in Washington County on August 30.

Alder Flycatcher.—Found at the beginning of the period south to Dane and Washington Counties. Domagalski found 8 in Washington County on August 5. Last reported by Verch in Ashland/Bayfield Counties on September 9.

Willow Flycatcher.—Reported at the beginning of the period in Dane, Sheboygan, and Washington Counties. Last reported by Burcar in Dane County on September 20.

Least Flycatcher.—Reported at the beginning of the period south to Dane and Washington Counties. Lockwood found 12 in Dane County on September 6. Last reported by Berner in Portage County on September 24.

Eastern Phoebe.—Found throughout the state at the beginning of the period. Lockwood found 15 in Dane County on October 2. Last reported by Ashman in Dane County on November 9.

Great Crested Flycatcher.—Reported throughout the state at the beginning of the period. Domagalski found 8 in Washington County on August 7. Last reported by Strelka in Milwaukee County on October 27.

Eastern Kingbird.—Found throughout the state at the beginning of the period. On August 1 the Smiths found 39 in Oconto County and Domagalski found 39 in Washington County. Last reported by Dee in Door County on September 22.

Horned Lark.—Reported during the period in scattered areas throughout the state. Lockwood found 300 in Dane County on October 3.

Purple Martin.—Found throughout the state at the beginning of the period. Sontag found over 250 in Manitowoc County on September 8. Last reported by Ashman in Dane County on October 3.

Tree Swallow.—Found throughout the state at the beginning of the period. Robbins found 3000 in Dane County on August 27. Last reported by Berger in Sheboygan County on November 20.

Northern Rough-winged Swallow.—Reported at the beginning of the period in Barron, Dane, Door, LaCrosse, Langlade, Polk, and Washington Counties. Bradley found 6 in Burnett County on August 12. Last reported by Dankert in Vernon County on September 25.

Bank Swallow.—Reported at the beginning of the period north to Polk, Barron, Langlade, Oconto, and Door Counties. Stedman found 600 in Green Lake County on August 14. Last reported by Dankert in Vernon County on September 11.

Cliff Swallow.—Found throughout the state at the beginning of the period. Cowart saw 10's of thousands in Ozaukee County on September 4. Last reported by Tessen in Ozaukee County on October 2.

Barn Swallow.—Found throughout the state at the beginning of the period. The Smiths found 153 in Oconto County on August 15. Lat reported by Burcar in Dane County on November 26.

Gray Jay.—Reported during the period in Ashland, Douglas, Florence, Forest, Iron, Langlade, Price, and Vilas Counties.

Blue Jay.—Found throughout the state dur-

ing the period. Belter found over 70 in Marathon County on October 20.

American Crow.—Reported throughout the state during the period. Duerksen found 430 in Richland County on November 9.

Common Raven.—Found during the period south to Monroe and Juneau Counties. The Lukes found 18 in Door County on November 9.

Black-capped Chickadee.—Reported throughout the state during the period. Belter found over 60 in Marathon County on October 5.

Tufted Titmouse.—Found during the period in Dane, Eau Claire, La Crosse, Richland, and Sheboygan Counties. Dankert found 3 in La Crosse County on August 21.

Red-breasted Nuthatch.—Reported at the beginning of the period south to Dane and Washington Counties. Tessen found 30 in Ozaukee County on September 18. Found throughout the state at the end of the period.

White-breasted Nuthatch.—Found throughout the state during the period. Berner found 12 in Portage County on September 21.

Brown Creeper.—Found at the beginning of the period south to Washington County. Tessen found 10 in Ozaukee County on October 2 and Lockwood found 10 in Dane County on October 31. Reported in scattered areas throughout the state at the end of the period.

Carolina Wren.—Reported from the beginning of the period to August 6 in Jefferson County by Hale, on August 7 in Dane County by Ashman, on August 15 in Washington County by Diehl, and on August 19 in Dane County by Robbins.

House Wren.—Found throughout the state at the beginning of the period. Berner found 12 in Portage County on August 7. Last reported by Robbins in Dane County on October 21.

Winter Wren.—Reported at the beginning of the period in Door, Douglas, and Portage Counties. Sontag found 6 in Manitowoc County on October 20. Found at the end of the period in Dane, Manitowoc, and Oconto Counties.

Sedge Wren.—Found in scattered areas throughout the state at the beginning of the period. The Smiths found 31 in Oconto County on August 1. Last reported on October 3 in Dane County by Ashman and in Oconto County by the Smiths.

Marsh Wren.—Reported at the beginning of the period north to La Crosse, Portage, and Oconto Counties. Domagalski found 13 in Washington County on August 28. Last reported on October 25 in Dane County by Burcar and in Portage County by Berner.

Golden-crowned Kinglet.—Found at the beginning of the period in Door and Douglas Counties. Ashman found 30 in Dane County on October 12. Reported at the end of the period north to Oconto and Door Counties.

Ruby-crowned Kinglet.—First reported by Hardy in Price County on August 11. Berner found 25 in Portage County on September 28. Reported at the end of the period in Dane County by Ashman.

Blue-gray Gnatcatcher.—Found at the beginning of the period north to Polk and Manitowoc Counties. Lockwood found 7 in Dane County on September 2. Last reported by Tessen in Sheboygan County on October 16.

Eastern Bluebird.—Found throughout the state at the beginning of the period. Erdman found 117 in Oconto County on October 23. Last reported by Duerksen in Richland County on November 14.

Veery.—Reported in scattered areas throughout the state at the beginning of the period. Last reported on September 29 in Milwaukee County by Bontly and Strelka.

Gray-cheeked Thrush.—First reported by Pickering in Langlade County on August 13. Berner found 232 in Portage County on September 17. Last reported by Verch in Ashland/Bayfield Counties on October 25.

Swainson's Thrush.—First reported by Sontag in Manitowoc County on August 10. Berner found over 1000 in Portage County on Sep-

tember 17. Last reported by Ziebell in Winnebago County on October 9.

Hermit Thrush.—Found at the beginning of the period in Barron, Douglas, Langlade, and Wood Counties. Domagalski found 62 in Washington County on October 9. Last reported by Sontag in Manitowoc County on November 23.

Wood Thrush.—Reported during the period north to Price, Vilas, and Oconto Counties. Domagalski found 7 in Washington County on August 10. Last reported on October 12 in Milwaukee County by Zehner.

American Robin.—Found at the beginning of the period throughout the state. Belter found over 150 in Marathon County on September 12. Reported at the end of the period north to Pierce, Wood, and Brown Counties.

Gray Catbird.—Reported throughout the state at the beginning of the period. Domagalski found 123 in Washington County on August 1. Last reported by R. Johnson in Douglas County on November 13.

Brown Thrasher.—Found at the beginning of the period north to Polk, Barron, Langlade, and Door Counties. Ashman found 9 in Dane County on September 22. Last reported by Dankert in La Crosse County on November 15.

Water Pipit.—First reported in Douglas County by Semo on September 18. In Dodge County Peterson found 15 on October 17 and Robbins found 15 on October 23. Last reported by Tessen in Dodge County on November 11.

Bohemian Waxwing.—First reported by Semo in Douglas County on October 18. Semo found 34 in Douglas County on November 4. Found at the end of the period in Ashland, Bayfield, Douglas, Price, and Shawano Counties.

Cedar Waxwing.—Found throughout the state at the beginning of the period. Evanson found 221 in Dane County on October 22. Found at the end of the period north to Barron, Wood, and Door Counties.

Phainopepla.—When a friend of Marvin Calwart first saw this "black cardinal" in Grant Park in Milwaukee County, on October 31, little did he know of the rush that would occur to see this first Wisconsin record during the next week. Many observers saw this bird through November 7. See "By the Wayside."

Northern Shrike.—First reported by Semo in Douglas County on October 7. Found in scattered areas throughout the state at the end of the period.

European Starling.—Found throughout the state during the period. Domagalski found 3965 in Washington County on August 18.

Bell's Vireo.—Found at the beginning of the period in Dane and Richland Counties. Last reported by Robbins in Dane County on September 6.

Solitary Vireo.—Reported at the beginning of the period in Douglas County by R. Johnson, the LaValleys, and Semo. Berner found 6 in Portage County on September 28. Last reported by Bontly in Milwaukee County on November 3.

Yellow-throated Vireo.—Found at the beginning of the period north to Portage, Oconto, and Door Counties. Berner found 4 in Portage County on August 31. Last reported on September 28 in Dane County by Lockwood and in Portage County by Berner.

Warbling Vireo.—Found in scattered areas throughout the state at the beginning of the period. Domagalski found 12 in Washington County on August 4. Last reported on September 18 in Portage County by Berner and in Winnebago County by Burcar.

Philadelphia Vireo.—First reported by R. Johnson in Douglas County on August 22. Lockwood found 7 in Dane County on September 13. Last reported by Lockwood in Dane County on October 10.

Red-eyed Vireo.—Found throughout the state at the beginning of the period. Domagalski found 19 in Washington County on August 14. Last reported by Sontag in Manitowoc County on November 8.

Blue-winged Warbler.—Reported at the beginning of the period in Dane and Richland

Counties. Last reported by Ashman in Columbia County on September 11.

Golden-winged Warbler.—Found at the beginning of the period in Barron and Polk Counties. Ashman and Lockwood found 4 in Dane County on September 5. Last reported by Bontly in Milwaukee County on October 3.

Tennessee Warbler.—First reported on August 5 in Portage County by Berner and in Douglas County by Semo. Domagalski found 45 in Washington County on September 5. Last reported on October 16 in Dane County by Ashman and in Washington County by Domagalski.

Orange-crowned Warbler.—First reported on August 26 in Milwaukee County by Zehner. Domagalski found 3 in Washington County on October 9 and Ashman found 3 in Dane County on October 10. Last reported in Dane County by Ashman on November 8.

Nashville Warbler.—Found at the beginning of the period south to Polk, Barron, Shawano, and Door Counties. Lockwood found 25 in Dane County on September 19. Last reported by Bontly in Milwaukee County on October 22.

Northern Parula Warbler.—Reported at the beginning of the period in Ashland, Bayfield, and Door Counties. Lockwood found 4 in Dane County on September 17. Last reported by Strelka in Milwaukee County on October 24.

Yellow Warbler.—Found throughout the state at the beginning of the period. Domagalski found 36 in Washington County on August 1. Last reported by Tessen in Ozaukee County on October 2.

Chestnut-sided Warbler.—Found at the beginning of the period in Barron, Douglas, and Portage Counties. Berner found 13 in Portage County on September 2. Last reported on October 7 in Milwaukee County by Bontly and Strelka.

Magnolia Warbler.—Reported at the beginning of the period in Douglas County by R. Johnson and Semo. Lockwood found 14 in Dane County on September 28. Last reported by Ashman in Sauk County on October 25.

Cape May Warbler.—First reported by the Brassers in Sheboygan County on August 3. Schultz found 300 in Ashland County on August 31. Last reported by Stover in Door County on November 13.

Black-throated Blue Warbler.—First reported by Peterson in Shawano County on August 4. Tessen found 4 in Ozaukee County on September 11. Last reported on October 2 in Winnebago County by Burcar and in Ozaukee County by Tessen.

Yellow-rumped Warbler.—Found at the beginning of the period in Ashland, Barron, Bayfield, Door, Douglas, and Price Counties. Tessen found 150 in Ozaukee County on October 2. Last reported by Zehner in Milwaukee County on November 17.

Black-throated Green Warbler.—Reported at the beginning of the period in Door and Douglas Counties. Berner found 14 in Portage County on September 21. Last reported by Bontly in Milwaukee County on October 24.

Blackburnian Warbler.—Found at the beginning of the period in Ashland, Bayfield, and Douglas Counties. Lockwood found 5 in Dane County on September 26. Last reported by Bontly in Milwaukee County on September 30.

Pine Warbler.—Reported at the beginning of the period in Ashland, Bayfield, Door, Douglas, Portage, and Washington Counties. Berner found 3 in Portage County on August 20. Last reported by Stover in Door County on October 10.

Palm Warbler.—Reported at the beginning of the period in Douglas County by R. Johnson. The LaValleys found 200 in Douglas County on September 17. Last reported by Mueller in Milwaukee County on November 3.

Bay-breasted Warbler.—First reported by Bontly in Milwaukee County on August 4. Tessen found 15 in Ozaukee County on September 18. Last reported by Schultz in Ozaukee County on October 17.

Blackpoll Warbler.—First reported by Pickering in Langlade County on August 17. Schultz found 80 in Ashland County on August 31. Last reported by Ashman in Dane County on October 10.

Cerulean Warbler.—Robbins found one in Dane County on September 4.

Black-and-white Warbler.—Reported at the beginning of the period in Ashland, Bayfield, Door, Douglas, Price, and Shawano Counties. Tessen found 12 in Ozaukee County on September 18. Last reported by Burcar in Dane County on November 4.

American Redstart.—Found at the beginning of the period in Ashland, Barron, Bayfield, Door, Douglas, Manitowoc, and Oconto Counties. Schultz found 80 in Ashland County on August 31. Last reported by Ashman in Dane County on October 24.

Prothonotary Warbler.—Reported from the beginning of the period to August 10 in Polk County by Hudick and on August 20 and 21 in La Crosse and Vernon Counties by Dankert.

Ovenbird.—Found in scattered areas throughout the state at the beginning of the period. Tessen found 7 in Ozaukee County on September 18. Last reported by Freiberg in Dane County on November 26.

Northern Waterthrush.—Reported at the beginning of the period in Barron, Door, and Douglas Counties. Lockwood found 7 in Dane County on September 16. Last reported by Mueller in Milwaukee County on October 11.

Louisiana Waterthrush.—Reported by Domagalski in Washington County on September 8 and by Lockwood in Dane County on September 10.

Connecticut Warbler.—First reported by Hardy in Price County on August 19. Last reported by Domagalski in Washington County on September 16.

Mourning Warbler.—Reported at the beginning of the period in Douglas and Portage Counties. Last reported by Carlsen in Pierce County on September 28.

Common Yellowthroat.—Found throughout the state at the beginning of the period. Domagalski found 34 in Washington County on September 5. Last reported by Verch in Ashland/Bayfield Counties on November 23.

Hooded Warbler.—Reported by Peterson in Shawano County on August 3, by Robbins in Dane County on August 14, and by Domagalski in Washington County on August 28.

Wilson's Warbler.—First reported by Soulen in Langlade County on August 15. Lockwood found 3 in Dane County on September 15. Last reported by Bontly in Milwaukee County on September 26.

Canada Warbler.—Found at the beginning of the period in Oconto County by the Smiths. Dankert found 6 in Vernon County on August 27. Last reported by Diehl in Milwaukee County on October 3.

Scarlet Tanager.—Reported at the beginning of the period north to Polk, Barron, Langlade, and Door Counties. Berner found 7 in Portage County on August 18. Last reported by Erdman in Oconto County on October 3.

Tanager Sp..—Reported by Hendrix and Petrykowski in Milwaukee County on November 23 and 24. The Records Committee was unable to determine whether this was a summer or Scarlet Tanager.

Western Tanager.—Hardy saw one at her feeders in Price County on August 18. See "By the Wayside."

Northern Cardinal.—Reported during the period north to Burnett, Bayfield, Ashland, Price, Langlade, Oconto, and Door Counties. Ashman found 11 in Dane County on September 19.

Rose-breasted Grosbeak.—Found throughout the state at the beginning of the period. Ashman found 25 in Dane County on September 15. Last reported by Stover in Door County on October 12.

Indigo Bunting.—Reported throughout the state at the beginning of the period. The Smiths found 35 in Oconto County on August 1. Last reported by Tessen in Milwaukee County on October 2.

Dickcissel.—Reported by Dankert in La Crosse County on August 1.

Rufous-sided Towhee.—Found through-

out the state at the beginning of the period. Domagalski found 15 in Washington County on August 7. Last reported by Lockwood in Dane County on October 23. Lockwood found one of the spotted race in Dane County on October 7. See "By the Wayside."

American Tree Sparrow.—First reported by Semo in Douglas County on September 23. Kuecherer found 200 in Monroe County on October 30. Found at the end of the period north to Polk, Barron, Price, Oconto, and Door Counties.

Chipping Sparrow.—Found throughout the state at the beginning of the period. Berner found 30 in Portage County on September 29. Last reported by Parsons in Walworth County on November 12.

Clay-colored Sparrow.—Reported at the beginning of the period south to Barron, Polk, Portage, Shawano, and Door Counties. Last reported by Robbins in Dane County on October 13.

Field Sparrow.—Found at the beginning of the period north to Douglas, Langlade, and Door Counties. Berner found 23 in Portage County on August 28. Last reported by Lockwood in Dane County on November 1.

Vesper Sparrow.—Reported at the beginning of the period north to Douglas, Langlade, Oconto, and Door Counties. Bradley found 5 in Burnett County on August 12. Last reported by Carlsen in Pierce County on October 26.

Savannah Sparrow.—Found throughout the state at the beginning of the period. Domagalski found 27 in Washington County on August 17. Last reported by Mueller in Milwaukee County on November 5.

Grasshopper Sparrow.—Reported at the beginning of the period in Door, Green Lake, La Crosse, Shawano, and Washington Counties. Last reported by Schultz in Green lake County on August 13.

Henslow's Sparrow.—Reported from the beginning of the period to August 13 in Green Lake County by Schultz.

LeConte's Sparrow.—Reported by Semo in Douglas County on August 4.

Sharp-tailed Sparrow.—Bradley found 6 in Burnett County on August 12.

Fox Sparrow.—First reported on September 20 in Douglas County by R. Johnson and Semo. Domagalski found 54 in Washington County on October 23. Reported at the end of the period in Dane County by Burcar.

Song Sparrow.—Found throughout the state at the beginning of the period. The Smiths found 68 in Oconto County on August 1. Reported at the end of the period in Dane and Washington Counties.

Lincoln's Sparrow.—Reported at the beginning of the period in Barron and Douglas Counties. Berner found 8 in Portage County on September 30. Last reported by Cowart in Ozaukee County on November 17.

Swamp Sparrow.—Found throughout the state at the beginning of the period. Verch found 18 in Ashland and Bayfield Counties on September 9. Reported at the end of the period in Dane, Portage, and Washington Counties.

White-throated Sparrow.—Reported at the beginning of the period south to Shawano and Door Counties. Ashman found 130 in Dane County on October 4. Found at the end of the period in Dane, La Crosse, Milwaukee, and Outagamie Counties.

White-crowned Sparrow.—First reported by Semo in Douglas County on September 8. Berner found 4 in Portage County on September 30. Last reported by the LaValleys in Douglas County on October 29.

Harris' Sparrow.—First reported by Semo in Douglas County on September 18. In Douglas County R. Johnson found 4 on September 19 and the LaValleys found 4 on September 30. Last reported by Lockwood in Dane County on October 18.

Dark-eyed Junco.—First reported by Reardon in Vilas County on August 3. Hardy reported a maximum of 500 in Price County, no date given. Domagalski found 237 in Washing-

ton County on October 27. Found throughout the state at the end of the period.

Lapland Longspur.—First reported by Semo in Douglas County on September 8. Tessen found 75 in Manitowoc County on October 24. Found at the end of the period in Dane, La Crosse, and Winnebago Counties.

Snow Bunting.—First reported by Carlsen in Pierce County on October 2. Epstein found 300 in Monroe County on November 7. Found in scattered areas throughout the state at the end of the period.

Bobolink.—Found throughout the state at the beginning of the period. Domagalski found 69 in Washington County on August 7. Last reported by Robbins in Columbia County on September 24.

Red-winged Blackbird.—Reported throughout the state at the beginning of the period. Belter found over 3500 in Marathon County on August 14. Found at the end of the period in Calumet, Dane, and Washington Counties.

Eastern Meadowlark.—Found throughout the state at the beginning of the period. Ziebell found 10 in Winnebago County on October 5. Last reported on November 10 in Monroe County by Richter and in Oconto County by the Smiths.

Western Meadowlark.—Reported at the beginning of the period in Dane, Dodge, Douglas, La Crosse, Pierce, and Polk Counties. Last reported by Burcar in Dane County on October 25.

Yellow-headed Blackbird.—Found at the beginning of the period in Barron, Columbia, Dane, Dodge, Oconto, Polk, and Shawano Counties. Ashman found 10 in Columbia County on August 3 and the Smiths found 10 in Oconto County on August 8. Last reported on September 11 in Dodge County by Burcar and Tessen.

Rusty Blackbird.—First reported by Verch in Ashland/Bayfield Counties on September 14. Belter found over 150 in Marathon County on October 20 and Ashman found 150 in Columbia County on November 16. Last reported on November 16 in Dodge County by Hall and in Washington County by Domagalski.

Brewer's Blackbird.—Reported at the beginning of the period south to Barron, Portage, and Shawano Counties. Tessen found 250 in Racine County on August 28. Last reported by Hall in Dodge County on November 16.

Common Grackle.—Found throughout the state at the beginning of the period. Domagalski found 9300 in Washington County on August 6. Last reported by Tessen in Waupaca County on November 26.

Brown-headed Cowbird.—Reported throughout the state at the beginning of the period. Parsons found 500 in Walworth County on October 15. Last reported by Hall in Dodge County on November 16.

Northern Oriole.—Found throughout the state at the beginning of the period. Domagalski found 11 in Washington County on August 1. Last reported by Reardon in Vilas County on September 7.

Pine Grosbeak.—First reported by Semo in Douglas County on October 8. Peterson found 4 in Shawano County on November 29. Reported at the end of the period in Ashland, Bayfield, Door, Douglas, and Shawano Counties.

Purple Finch.—Reported at the beginning of the period south to Portage and Washington Counties. The Smiths found 10 in Oconto County on August 15 and Belter found 10 in Marathon County on October 9. Found at the end of the period south to Richland, Dane, and Washington Counties.

House Finch.—Reported during the period north to Douglas, Bayfield, Ashland, Price, Langlade, Oconto, and Price Counties. Ashman found 80 in Dane County on October 16.

Red Crossbill.—Reported at the beginning of the period in Douglas County by Semo. Erdman found 36 in Oconto County on October 3. Reported at the end of the period in Douglas County by Semo.

White-winged Crossbill.—First reported by Semo in Douglas County on August 3. Soulen found 15–20 in Douglas County on October 19. Reported at the end of the period in Douglas County by Semo.

Common Redpoll.—First reported by Semo in Douglas County on October 7. The Lukes found over 1000 in Door County on November 8. Reported at the end of the period south to Pierce and Wood Counties.

Pine Siskin.—Found at the beginning of the period in Ashland, Barron, Bayfield, Douglas, and Price Counties. Semo found 100 in Douglas County on October 11. Reported in scattered areas throughout the state at the end of the period.

American Goldfinch.—Reported throughout the state during the period. Berner found 100 in Portage County on September 16.

Evening Grosbeak.—Reported at the beginning of the period in Ashland, Bayfield, Douglas, and Price Counties. Peterson found over 100 in Shawano County on November 8. Reported at the end of the period south to Green Lake and Monroe Counties.

House Sparrow.—Found throughout the state during the period. Evanson found 80 in Winnebago County on November 26.

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"By the Wayside"

Observation of interest documents an albino Red-tailed Hawk dispersal.

Albino Red-tailed Hawk Dispersal from Natal Site

16 November 1993, Bluffsiding, Buffalo County—On the date indicated my partner in past works, Sam Nottleman of Winona, Minnesota, was able to photograph and confirm the presence of an albino Red-tail Hawk on the blufftop above the town of Bluffsiding. This bird had previously been reported to us but had remained an unconfirmed sighting when our major article on the albino Red-tails of the Wisconsin-Minnesota border was published (*The Passenger Pigeon* Vol 55, No. 1, p. 31–42). It was first reported to us in fall of 1992 in this area where it now resides. Later, it was seen hunting the Mississippi River bottoms of Trempeauleau National Wildlife Refuge during the winter months, with several reports by Dr. Carol Jefferson, Biology, Winona State University, during January and February of 1993. The hawk reappeared above Bluffsiding February 20th and was not reported from the River bottoms again thereafter. The change of locations may have been forced by poor hunting conditions on the bluffs, but is unusual for this strongly territorial species. We hypothesized that it was a young bird without a strong territorial attachment established during this period. That led us to speculate that the new white hawk above Bluffsiding was a juvenile and possibly the albino offspring (#13 in the earlier article) of albino hawk #2 from Beuhler Valley. The new sightings and photos confirm that the Red-tail in question is completely white, with no visible markings and light eyes. Only 2 of the albinos we have found are completely lacking in black or rufous markings, and only one of those, #13, had the light pearl eye color. Thus it is almost certain that birds #13 and #15 from the earlier report are one and the same. This specimen has taken up residence above Bluffsiding and has been seen there through January of 1994. As a final note, this evidence of a short 6–8 air mile dispersal from Beuhler Valley by this young hawk supports our earlier theory, one based on observed distribution patterns, that Red-tails in the Coulee Country only dispersed 10–12 miles. If this is true, as now seems more likely, then this might contribute to the inbreeding necessary to produce the high number of albino hawks observed in this relatively small area along the river.—*Dr. Philip C. Whitford, Biology Department, Capital University, Columbus, OH 43209.*

Kingbird *by Ed Boerner*

"By the Wayside"

Documentations of rare birds observed include Pacific Loon, King Eider, Purple Gallinule, Purple Sandpiper, Red Phalarope, Black-legged Kittiwake, Sabine's Gull, Phainopepla, Western Tanager and Rufous-sided (Spotted) Towhee

Pacific Loon (*Gavia arctica*)

2 October 1993, Wisconsin Point, Douglas County—I was birding Wisconsin Point and had made it to the lighthouse end without finding much. As I crested the dune between the parking lot and the lake I saw what appeared to be a female harlequin swimming away. I went back to my car for my scope, then proceeded to focus on the first bird that popped up. I have no idea what happened to the harlequin for the image in the scope was that of an adult basic-plumaged Pacific Loon. It was perhaps fifty feet away at first and in close company with a Common Loon. It was the same basic shape as the Common Loon, but a much smaller bird. What struck me was the rounded head and thickened neck profile unlike any Red-throated Loon I have seen. The head and back of the neck were a soft, medium gray, lighter than the back, indicating an adult, with a sharp, darker edge bordering the white cheek and foreneck. Small dark markings crossed the throat like a necklace. The dark bill was held horizontally. The loons drifted together, diving occasionally, until they were out of sight beyond the lighthouse, always checking for each other's location before the next dive.—*Robbye Johnson, 2602 N. 28th St., Superior, Wisconsin 54880.*

King Eider (*Somateria spectabilis*)

29 November 1993, Sheboygan Harbor—The bird was observed at relatively close range (25–40 feet) as it swam near a small group of Mallards.

Figure 1. Female King Eider, 29 November 1993, Sheboygan. *Photo by Thomas Schultz.*

Its size and overall general coloration were quite similar to the female Mallards. The bird was not overly concerned with my presence (only slightly wary) and I was able to shoot some photos of it.

In general, it was a rather drab brown duck, palest on the throat and down the front of the neck. There was a fairly prominent pale area around the eye, especially above, giving a split eye-ring effect. The bill was quite dark (blackish), with a shape that is distinctive for King Eider: long and heavy, with a peak on either side with extended toward the eye, but stopping well short. Below this peak, the side of the bill was deeply indented with a forward extension of cheek feathering (pale) to perhaps a third of the length of the bill. (Not nearly as deeply indented, however, as a Common Eider would be). The rear portion of the bill's gape had a slight upturn, which is also typical for this species, a "smiling" effect.

The back feathers were dark brown, with bright rufous edges that were fairly broad. The median and lesser wing coverts showed a similar effect of rufous edging. There was a narrow, but fairly prominent whitish bar across the tips of the greater secondary coverts, and a less conspicuous one across the tips of the secondaries, which were otherwise dark brown. The expected, dark, crescent-shaped flank markings were not well-developed, but there was some dark mottling here. Due to this, as well as the bright rufous edgings on the back, I suspect that this was probably an immature female.—*Thomas Schultz, N6104 Honeysuckle Lane, Green Lake, Wisconsin 54941.*

29 November 1993, Sheboygan—When first seen, the bird was quite far out in the lake with some other ducks, and all I could tell was that one duck was larger, more block-headed than the others. Over the course of the next hour, the ducks worked their way closer to shore. As it drew closer, the profile of the head was seen more clearly. Besides being large for the size of the duck, it was also very squarish. The top was flat, sloping slightly upward toward the front, and made a rather sharp angle both with the back of the head, and the forehead. The profile from forehead to bill tip was shallowly curved. The bill appeared dull orange, at times bright when hit by the sun. The unfeathered portion of the bill approaching the eye was squarish. The eye was located relatively high on the head. I was unable to note nostril position or angle of grin line on this bird. The head was a warm brown in color; the breast was a lighter dull tan, the flanks just darker, and the back a dark brown, the darkest portion of the bird. There were lighter crescents above and below the eye. At times I got the impression of a light line running back and down from the eye, but could not say for sure if this was the case. The profile of the forehead to bill was straight. Unlike the Common Eider, this bird held its bill parallel to the water.—*Brian Boldt, 19190 Emerald Dr., Waukesha, Wisconsin 53186.*

29 November 1993, Sheboygan Marina, Sheboygan—The initial observation I had of the bird was with a small flock of Mallards. The size and color of the eider was similar to the female Mallards. It soon swam away from the flock and began feeding near the shore. As the bird dove, I would move closer. When it surfaced, I stood still.

This technique got me to within 20 feet. The feathering along the sides of the bill extended only slightly into the bill, however, the feathering along the top of the bill extended nearly half way to the nostrils. The head appeared massive, very large, with the bill appearing rather stubby and stout. At its closest to me I could see the crescent-shaped patterning along its side and scapulars. A very distinctive eye ring was noted, much lighter in color than the rest of the head. Overall, the bird was very compact with a large head, dark brown body, lighter brown in the neck and head. A couple of times the bird raised out of the water to stretch. At this point, the body was very thick with short wings.—*Scott J. Baughman, 133 Park Ave., Sheboygan, Wisconsin 53083.*

29 November 1993, Sheboygan Marina—It was approximately the same size and shape as the nearby Mallards. It had a warm brown head, neck, body, and tail, with a somewhat paler breast, and was barred on the back and sides. A white feather or patch in the place usually referred to as the speculum; split buffy eyering, with a buffy crescent drooping from the back of the eye; the feathering on the bill came only a short distance towards the nostril; dark eye; sloping profile; and a grayish bill were all seen. The bird kept busy diving for food very close to the rocky shore most of the time we watched it. It spread its wings slightly each time it dove. It stayed underwater only briefly, each time reappearing on the surface close to the spot it had entered the water. The bird did not fly while we were watching it.—*Margaret Brasser, 813 Logan Avenue, Sheboygan, Wisconsin 53083.*

Purple Gallinule (*Porphyrula martinica*)

16 October 1993, City of Milwaukee, Milwaukee County—This bird was found injured on a sidewalk by a passer-by (John Jonas of Milwaukee). It was brought to the Wisconsin Humane Society Wildlife Dept. for care. As the wildlife rehabilitator on triage duty that morning, I was presented with an injured bird which immediately caught my attention. I knew at once that it was not an American Coot nor a Common Moorhen. After starting it on treatment for severe central nervous system trauma, probably from a collision, I made the following notes: There were no lobes on the toes. It was bronze-green on the back and hindneck. Dorsally, the primaries were iridescent green on the outer webs, while the inner webs were dusky. The crown was greenish-brown. The undertail coverts were all white. The iris was deep red. The upper bill was brown at the base and greenish at the distal quarter. The lower bill was greenish at the distal half and warm light brown on the proximal half. The shield disk on the forehead was olive-greenish. The throat and chin was whitish with incoming dark feathers. The sides of the face were buffy brown. The belly was whitish, and washed in places with light brown. The incoming feathers on the belly were purple, to aqua and violet on the sides. The uppertail coverts and dorsal surface of the tail was bronze-brown (darker than the back). The toes were long, sharp, and moderately curved. The outer edge of the outermost primaries was sky-blue. The legs were yellowish. I believe this to be a hatching year Purple

Gallinule.—*Scott Diehl, S. 68 W. 12977 Camilia Dr., Muskego, Wisconsin 53150.*

Purple Sandpiper (*Calidris maritima*)

12 November 1993, North Point along Sheboygan Shore of Lake Michigan—I had stopped at North Point to look for migrating ducks, unusual gulls, and late shorebirds. Movement on the left edge of the rocks caught my eye. I brought my binoculars up and was surprised to find a medium-sized dark shorebird. I quickly realized it was a Purple Sandpiper. The first thing I noticed was its junco-like coloration: grayish upper parts and breast, ending sharply with white underparts. Dark streaks came down from the gray breast onto the white lower chest and belly. I also immediately noted its bright orange legs (more orange than in the field guides). Approximately the basal third of the bill was the same orange color as the legs. The other two-thirds of the bill was a dusky brownish-gray. The bill was slightly downcurved at the tip. The length of the bill was shorter than that of dunlins we had observed in recent weeks. When the bird moved closest (approximately 15 feet away), I could also see that the basal third of the bill was not solid orange; dark streaks came up onto the orange part from the darker tip. Also observed at close range was a very faint eye-ring. The bird was rather plump, and reminded me of the shape of a starling. The feathers on the scapulars and wings showed light edgings. A faint wing stripe was observed the two times the bird flew short distances. The bird had dark eyes.—*David Brasser, 813 Logan Avenue, Sheboygan, Wisconsin 53083.*

Red Phalarope (*Phalaropus fulicaria*)

7 November 1993, Gills Rock, Door County—I was in Gills Rock looking at gulls on the outer pier of the boat dock. I was there approximately between 2:30 and 3:00 P.M. and at that time it was mostly cloudy with temperatures in the 30's. While I walked from the parking lot north to check on a possible loon sighting out on Lake Michigan beyond the gulls, I noticed what I thought to be a small gull. I then saw the long black narrow bill and, af-

Figure 2. Red Phalarope, 26 November 1993, Milwaukee County. *Photo by John Idzikowski.*

Figure 3. Red Phalarope, 26 November 1993, Milwaukee County. *Photo by Brian Boldt.*

ter some thought, felt it could be a phalarope. I was about 15 feet away and looking slightly down on it. The bird remained in the same spot and was slowly circling and feeding on the surface of the water. This circling behavior confirmed to me that it was a phalarope. The crown of the bird was white with a blackish-gray pattern Y beginning at the top of the nape and continuing down the hindneck. The front and sides of the neck were white, as was the upper breast. There was a large black patch around the eye extending well behind the eye. Other than that, the face was white. The bill was long, straight, and black. The back was light to medium gray and unstreaked. There were black feathers in the tail area. My identification of a Red Phalarope in winter plumage is based mainly upon three factors: 1. The bill was not at all "needle-like" as in a Red-necked Phalarope. It was "stout" as in a Red Phalarope. It also appeared shorter than the Red-necked. 2. The back was a light to medium gray and unstreaked. The Red-necked Phalarope is darker and streaked. 3. The crown was white and the blackish-gray pattern began well back toward the nape. The Red-necked Phalarope shows some black/gray on the crown.—*Barbara Stover, 867 W. Jonathan Lane, Milwaukee, Wisconsin 53217.*

31 October 1993, Little Lake butte des Mortes, Menasha—I spotted the phalarope swimming and feeding while I was scoping Little Lake Butte des Morts for ducks. The bird was mostly white with an unstreaked, light gray back. The wingtips were darker. It had a small black eye patch. It had a dark gray line down the back of the neck. Also, a few times, at closer range, I could detect a thin gray line above and behind the eye. I couldn't tell if this line connected to the gray line down the back of the neck. The forehead was white. From the front, I could not see any dark color on the crown, even when the bird's head was down, feeding. There was a small white area on the side of the breast, much like the crescent on Spotted Sandpipers. The bird flew a few times because a gull was harassing it. I could see a white wing stripe during flight, but could see no streaks on the back. Even at a distance out to about 250 yards, I could see the bill was short and thick, unlike the more needlelike bills of other phalaropes.—*Don Nussbaum, 1544 Ames St., Neenah, Wisconsin 54956.*

31 October 1993, James Island in Menasha between Little Lake Butte des Morts and the Fox River—The first thing Sylvia and I noted about the bird was the distinctive phalarope spinning motion of the body while feeding on top of the water. The body size of the bird was perhaps one-third the size of the Ring-billed Gulls that were near it. The overall body shape was shore-bird-like. The throat, breast, sides, and abdomen were white. The top of the head was dark, while there was a dark (black) horizontal stripe through the eye. The bill was dark. The eye was dark. When the bird flew, there was a white stripe visible on each wing. The rest of the upper wing was gray. The upper part of the tail was dark (black). The back of the bird was very gray (this was very noticeable).—*Thomas J. Truax, 848 Vine Ave., Oshkosh, Wisconsin.*

29 November 1993, Milwaukee Gun Club, Milwaukee County—The bird was observed with a scope as it swam about

just off the edge of the rocky shore. It was mostly engaged in feeding activities, but it was also observed preening, and it flew short distances on 3 occasions. For part of the time it was joined by two Bonaparte's Gulls, to within 3–4 feet of the phalarope. Plumage description: A pale, mostly gray and white, medium small shorebird. The head, neck, and underparts were mostly white, with a small amount of gray mottling along the breast sides. There was a distinct, black post-ocular patch, and blackish mottled patches on either side of the crown with a median white crown stripe on top of the head. The dark crown stripes merged on the hindcrown forming a dark gray stripe down the back of the neck. The back was pale gray (uniform), while the tertials were blackish, with narrow pale edges. The bill was short (perhaps 1 1/4 in.), black, and rather stout. There was a prominent white wing stripe—broadest across the secondary coverts, and narrowing on the primary coverts. Because of the amount and extent of black in the crown pattern, I believe that this was probably a first-winter plumaged individual.

Compared to the other phalarope species, this bird had a shorter, somewhat stouter bill (Wilson's Phalarope and Red-necked Phalarope have longer, more slender bills) and an unmarked, pale gray back. The white wing stripes were also broader and more prominent.—*Thomas Schultz, N6104 Honeysuckle Ln., Green Lake, Wisconsin 54941.*

26 November 1993, south of Bradford Beach, Milwaukee—A starling-sized, sandpiper-shaped bird was swimming among the Bonaparte's Gulls along the rocky shoreline. All were busily feeding. The bird's overall color pattern was gray above and white below. The back and wings were fairly uniformly medium to light gray without striping or feather definition. The primary wing feathers appeared darker gray (or blackish) than the back. The gray graded sharply into black or dark gray up the back of the neck and up onto the hindcrown. The dark coloring then forked around a white forecrown, extended toward, but not meeting the forehead/bill area the white forecrown and forehead extended down onto the face then down the cranial 3/4 of the neck and down the breast and flanks. A slight mottling of gray broke up the white on the upper mid-breast along the wing edge. Otherwise, the white was unbroken, except for a black patch around the eye, trailing back toward the ear area. This patch was separate from the dark hindcrown and nape.

The shape of this phalarope was noticeably different from the more familiar phalarope species, due to the shorter, heavier bill. It seemed out of place when I'm used to viewing the long, thin bills of the Wilson's and occasional red-necked. The bill was basically dark in color, but there were numerous moments when the sun and bill position gave off a yellowish glint, particularly the proximal portion of the lower beak. In 2 short flights, white wing stripes and a gray back, wings pattern was noted.—*Jim Frank, 4339 W. Laverna Ave., Mequon, Wisconsin 53092.*

26 November, 1993, Lake Michigan off North Point, Milwaukee—It was swimming from two to 60 feet offshore, never seen onshore. It was seen preening/bathing, picking at small objects on the water surface, and was

seen flying twice. It kept close company with groups of 10–35 Bonaparte's Gulls. It was alone to preen and bathe for a few minutes. It had a medium, light-gray mantle and blackish primary tips (the portion visible with folded wings). It had broad blackish horizontal patches on the head, encompassing the eye and ear areas. It was sooty grayish on the hindneck and nape, and this continued up to the back of the crown where it divided, leaving a white crown, but the darker bands continued forward over each eye. The forehead was white. The eye was blackish. The bill was black and somewhat reminiscent of a Semipalmated Sandpiper's stout bill. In flight it had a dark grayish dorsal surface of the wings, dark (blackish) primaries, with a white stripe through the secondaries tapering into the primaries. It had a white breast and underside and sooty smudges on the sides of the breast. It had light gray streaking on the sides and a white throat. It had somewhat fluttery shorebird-like flight, and was only seen flying short distances (a few dozen meters), low over the water.—*Scott Diehl, S. 68 W. 12977 Camilia Dr., Muskego, Wisconsin 53150.*

Black-legged Kittiwake (*Rissa tridactyla*)

17 August 1993, Milwaukee Coast Guard Impoundment—We watched the bird circle with the flock of Bonaparte's Gulls for about 10 minutes. The bird made a rectangular, what-seemed-to-be searching pattern low off the water, at most 30 feet high, but most of the time it was within 20 feet of the water's surface. It dove toward the water a couple of times, but never entered or took prey from the pond. During the time we watched the bird inside the impoundment, it passed directly in front of us 8–10 times, within 30 feet of us. It was easy to compare the different-looking bird with the many other Bonaparte's that were passing equally near us in their rectangular-searching of the southern edge of the pond. The bird was about the size or somewhat larger than the Bonaparte's Gulls, but the difference in size among the two species was not extreme. Both species were dwarfed by a Caspian Tern that flew just over them at one point. The bird was stocky and thick-appearing, with the wide wings of a gull (as opposed to a tern), the head was rounded, the bill was thick, very dark and down-turned at the tip. The bill was held relatively straight ahead in flight (as opposed to a tern). The legs were very definitely pink-red and not black. Although the body shape and size were not exaggeratedly different from the other immature Bonaparte's, the colors and markings were very different. The bird had a white head, a very dark eye and a dark eyespot behind the eye that was slightly irregular and drawn down in a thin line. The bill was black. The upper wing was gray to slate-gray in color, along the length from end-to-end (except wing tips). The mantle carried a dark black "M" pattern across its entirety in that the outer wingtip edges were dark black (did not carry points, dots, or flecks of white within the dark area) up to the bird's wrist at which point the black band of color crossed over the wing toward the inner-wing, diagonally, terminating near the body and almost to the trailing edge of the wing. This pattern was repeated on the other wing, (again upperside), and be-

cause the very trailing edge of both wings was white-gray, the black line pattern on the upper wing looked like a big "M"—no other dark lines on the wing broke up this visual image. The tail carried a dark black band across its otherwise white background. The most dramatic color marking noticed was the dark, very black band across the back of the bird's nape that extended down, but not to the point of the wing's attachment to the torso. The black band was wide, but clearly defined. This was not a dispersed-looking patch of beige or brown, but a black, quarter-ring around the bird. The contrast between the white background and the black band brought immediately to mind the dramatic effect of the black line around the head of an adult Ross' gull.—*Susanne Marie Brown, 3423 North Buffum Street, Milwaukee, Wisconsin 53212.*

Sabine's Gull (*Xema sabini*)

2 October 1993, Wisconsin Point, Douglas County—I set up my scope at the bluff to look at gulls starting at the beach line and swinging out into the lake. Not far out and off by itself was a Bonaparte's-sized gull. My first thought was a winter Franklin's Gull but the gull looked too dark. It was dark brownish-gray on the back. The underparts were white. Gray smudges showed on top of the head, on the cheek area, down the back of the neck, and extended over to the side of the lower neck. I suspected Sabine's Gull but was too far away to see the back feathers or other details clearly enough to be sure. The gull stretched its wings showing only the underside of the wing facing me. It was all white with dark outer primary tips. The underwing pattern revealed a black triangle formed by the outer primaries, tip to leading edge at the wrist, base to trailing edge. The mid-wing was a white triangle, again tip to wrist, base at trailing edge. The remaining wing area was medium brownish-gray. I also noticed gray smudges on the sides of the lower neck extending onto the side of the upper breast. I didn't notice the tail and was too far away to see the bill clearly.—*Robbye Johnson, 2601 N. 28th St., Superior, Wisconsin 54880.*

Phainopepla (*Phainopepla nitens*)

1 November 1993, Grant Park, Milwaukee County—The bird was initially identified by Marvin Calwart, who was investigating what a friend had described to him as a "black cardinal." Compared to a cardinal the bird was perhaps not quite as long, and definitely thinner. Also, the bill was more comparable to a waxwing, being short and thin. The crest of the bird was not nearly so full as a cardinal either, appearing as a succession of clumps of a few feathers with gaps in between. The eye of the bird was red. The plumage was a glossy black, more bluish than

Figure 4. Phainopepla, 6 November 1993, Milwaukee County. *Photo by Janine Polk.*

greenish in bright sunlight. In flight, it showed white wing patches, with about half of each primary being white, and half black. At rest it was also noted that a few of the secondaries seemed to be a dull brown. I was never able to make this observation in flight, however. Initially, and again for the next 3 or 4 days, the bird fed on bittersweet and buckthorn berries in small patches of woods near an open grassy area. It seemed to favor a low crab tree with a dense tangle of grapevine at the top. This tree seemed to be its base of operations when feeding. When done feeding, the bird would disappear into the nearby woods for 15 minutes to an hour at a time, then resume by first flying to the top of one of the taller trees in the woods, and then down to the crab tree from where it could survey its feeding areas before choosing one. Sometime in the next week it shifted territory about 100 feet to the east, at the edge of a solid patch of woods. Here again it was seen feeding on buckthorn and bittersweet. At this location I also noted that a few of the scapulars seemed to have a brownish edging to them, of a similar color to the brownish secondaries. Since the juvenile male is similarly colored to the gray-brown female, this leads one to suspect this may have been a first-year adult retaining some juvenile characteristics.—*Brian Boldt, 19190 Emerald Dr., Waukesha, Wisconsin 53186.*

2, 4, 6 November, 1993, Grant Park, Milwaukee County—The bird was first observed flying across a road into a tree with bittersweet berries on it. The black color with white primaries was first noticed, along with size a little smaller than a cardinal. Once in the tree, the high ragged crest was seen. Later observations added the following details: Thin medium-length bill, blackish in color, overall black body color except for the white wing patch (usually not noticed except in flight), brownish feathers on the lower back (I don't remember if it was the upper rump area or folded wing feathers), and a red eye. Virtually everything else was black. The brown feathering may suggest an immature male. Another distinctive trait was its call note, heard most often the first day. It was sort of like the field guide description of "wurp," but maybe a little more like a soft version of the last "white" note of a bobwhite call. As far as behavior, at times the phainopepla would sit quietly, hidden deep in a bush for up to 15–20 minutes, other times feeding more in the open on berries, sometimes sitting high on an exposed perch, and occasionally flying up in the air like a flycatcher, although it did not seem to be catching insects.—*Dennis Gustafson, 15440 Linfield Lane, New Berlin, Wisconsin 53152.*

WESTERN TANAGER (*Piranga ludoviciana*)

18 August 1993, at feeder west of Park Falls in Price County—The bird flew from the spruce tree and perched on the tray of a feeder. My first thought was that a female Scarlet Tanager has followed its mate into my yard, but after going to my bird book, the only tanager with wing bars is the Western Tanager. The wing bars had a yellowish tinge, the head on top was greenish, as was the back (divided by a narrow band of yellow). The throat and underparts were yellow, the tail black and notched. The wings were black with two wing bars. The length

was about 6½ to 7 inches, about the size of a Scarlet Tanager or Northern Oriole. The eye was dark. I saw the bird several times yet that afternoon, but that was all. It must have been just passing through.—*Maybelle Hardy, N. 15210 Pine Creek Road, Park Falls, Wisconsin 54552.*

Rufous-sided (Spotted) Towhee (*Pipilo erythrophthalmus*)

7 October 1993, Picnic Point, Madison—I observed for several minutes the western (spotted) subspecies of the Rufous-sided Towhee. The bird had a black head with red eyes, a black back with white spots slightly above the wing and in the wing coverts. It also had two white wing bars. The spots and wing bars were quite prominent. Additionally, the bird had a black tail with white edges toward the end, rufous sides and undertail coverts, and a white belly. I have observed spotted towhees many times, in fact, it was only two years ago when I started birding in Wisconsin that I saw an eastern Rufous-sided Towhee. The day was clear and the bird was observed using 10×42 binoculars.—*Ron Lockwood, 1204 Drake St., Apr. 2, Madison, Wisconsin 53715.*

50 Years Ago in *The Passenger Pigeon*

On the back cover of the Pigeon, Mrs. Walter Scott wrote of a Hawk Owl observed at Horicon. "On the afternoon of January 2, 1944, S. Paul Jones, Harold Mathiak and Frank Burrow studied a Hawk Owl in Horicon Marsh with the aid of a 40-power telescope. Ample time and opportunity was had to note the characteristic posture, profile and other marks.

A check of available records show the bird to be of rare occurrence in the southern part of the state, Kumlien and Hollister reporting it as a 'very rare winter visitant in southern Wisconsin; more frequent in the northern part especially of late years.' Early day records from Racine and Lake Koshkonong are reported, with two taken at Meridian in April 1885, and December, 1900, and three from Bayfield County in the winter of 1892. A specimen in the Milwaukee Public Museum is labeled 'Fox Point, Milwaukee, Wisconsin,' and one in the Oshkosh museum, taken by Crawford, carries no other collection data." (Excerpts from Volume 6, 1944)

WSO Records Committee Report—Fall 1993

A total of 46 reports of 14 species were reviewed by the WSO Records Committee for the Fall of 1993. 41 of these reports were accepted for an acceptance rate of 89%. All contributors were notified of the Committee's decision, either by postcard for accepted reports or by personal letter for records not accepted. The first state record of a Phainopepla was accepted on the basis of a commendable 15 documentations including 5 photo submissions.

by Jim Frank

ACCEPTED

Pacific Loon

#93-044 *Douglas Co.;* Johnson, 2 October 1993.

Documentation of an adult in basic plumage was accepted on the basis of smaller size compared to an adjacent Common Loon, a medium gray head and hindneck, white cheek and foreneck, and a darker gray edge between the gray hindneck and white foreneck. The dark necklace markings were also evident. The bill was dark and held horizontally rather than appearing upturned as in Red-throated Loons. The neck was also thicker than that of a red-throated. For a discussion of loon identification see *Birding,* February 1980, pp. 12–28.

King Eider

#93-045 *Sheboygan Co.;* Wood, 28 Nov.; Boldt 29 Nov.; Brasser 29 Nov.; Schultz, 29 Nov.; Baughman, 29 Nov.

Documentation as an eider was based on description of the upper bill extending prominently up toward the eye, with a marked forward extension of the feathered cheek between the upper bill extension and the bill commissure. Differentiation from Common Eider was based on the position of the nostril opening. In King Eiders, the nostril is positioned significantly forward of the forward tip of the feathered cheek. A Common Eider's nostril is immediately at the tip of the forward tip of the feathered cheek. An additional identification point is the slight upward curve to the

beak commissure line—sometimes termed a "grin line." This grin line usually lies in a pale patch of feathering on King Eiders. A Common Eider has a straight, less conspicuous grin line in the brown feathering. These field marks obviously require a *good* look at the bird. All other descriptions of the general brown coloration and darker barring patterns of females and immature birds are extremely variable in the literature. Though the northeastern race of Common Eider has a "classic" long, straight sloping forehead, other races have a shorter, more curved forehead profile like that of a King Eider. Observers of eiders in these plumages may need to accept eider (species) as the most accurate identification for many of these birds unless the bird is close enough to see the nostril position and grin line shape. One sidelight of this Kind Eider report is a variable bill color description. Some observers (including the photos) reported a dark gray bill (female?). Two other observers reported a definite orange color in certain light (juvenile male?). The possibility has been raised of a second bird being present. This is another reason for all observers to document their sightings. New information may come to light if we don't fall into the "someone else will document it" outlook.

Purple Gallinule

#93-046 *Milwaukee Co.,* Diehl, 16 October 1993.

Gallinule presented injured to a wildlife rehabilitator, subsequently died; photos taken, specimen submitted to Milwaukee Public Museum. Bronze-green back, hindneck, and wings. Bill was brown on proximal half and green on distal half. New feathering on belly and flanks was purple and aqua.

Purple Sandpiper

#93-048 *Sheboygan Co.,* Brasser, 12 November 1993.

"Junco-like coloration" pattern was described on a plump, starling-shaped shorebird. Streaking on the white lower breast and belly was gray. Legs were orange; the proximal third of bill was orange, progressing to a dark gray distal two-thirds of the beak. The tip drooped slightly.

Red Phalarope

#93-049 *Winnebago Co.;* Truax, 31 October; Nussbaum, 31 October 1993.

#93-050 *Door Co.;* Stover, 7 November 1993.

#93-051 *Milwaukee Co.;* Idzikowski, 26 Nov.; Boldt, 26 Nov.; Diehl, 26 Nov.; Bontly, 26 Nov.; Frank, 26 Nov.; Gustafson, 26 Nov.; Wood, 26 Nov.; Mueller, 27 Nov.; Sontag, 28 Nov.; Tessen 28 Nov.; Schultz, 29 November 1993. (Photos)

All 3 birds were described being a small, white, swimming shorebird with an unmarked gray back; a dark gray nape, hindneck, and eye patch; white forecrown; shorter, thicker bill than a typical needle-like phalarope bill.

Black-legged Kittiwake

#93-053 *Milwaukee Co.;* Brown, 17 August 1993.

A thoroughly described juvenile plumaged bird seen in flight with Bonaparte's Gulls for 10 minutes as close as 30 feet before it flew off on its own to the south. The bird was very slightly larger than the bonaparte's, with a small black ear patch, large black hindneck patch, and a striking black M-pattern across the gray upper wings. It lacked any black along the trailing edge

of the wing. Other immature gulls, including the bonaparte's observed that day have brownish marking instead of black on the hindneck and wings. No white was evident on the upper wings in contrast to the bonaparte's seen in flight. The black bill was slightly shorter and thicker in appearance than the bonaparte's bill. The white tail had a black terminal band. The legs were pink (a color occasionally noted in Black-legged Kittiwakes). The very early date is difficult to explain given the known nesting time and expected fledging time in the arctic.

Sabine's Gull

#93-054 *Douglas Co.*, Johnson, 2 October 1993.

Definitive upper wing pattern was seen on a bonaparte's-sized gull. Dark gray-brown inner triangular wing patch, black outer primary triangular wing patch, and a white triangle across the middle back portion of the wing were noted. Dark smudging was noted on the head and neck, reminiscent of a Franklin's Gull.

Phainopepla

#93-056 *Milwaukee Co.;* Boldt, 1 Nov.; Idzikowski, 1 Nov.; Bontly, 2 Nov.; Strelka, 2 Nov.; Diehl, 2 Nov.; Gustafson, 2 Nov.; Wood, 3 Nov.; Frank, 3 Nov.; Tessen, 3 Nov.; Hall, 5 Nov.; Johnson, 6 Nov.; Peterson, 6 Nov.; Sontag, 6 Nov.; Polk, 6 Nov.; Mueller 7 Nov. 1993 (Photos)

The "black cardinal" had a wispy crest, red eyes, and white primary wing tip patches in flight. No evidence of feather wear was detected. This is the first state record for Wisconsin.

Western Tanager

#93-058—*Price Co.;* Hardy; 18 August 1993.

This female tanager with wing bars was identified as a Western Tanager because of yellowish neck band contrasting to the greenish head and back. (Note: immature Scarlet Tanagers may have wingbars).

Rufous-sided "Spotted" Towhee

#93-059 *Dane Co.;* Lockwood; 7 October 1993.

This male Rufous-sided Towhee had white wingbars and white spots in the wing coverts.

Not Accepted

King Eider

#93-045 *Sheboygan Co.;* 28 November 1993.

Distance form the bird precluded a look at the nostril and cheek feathering position or the "grin line." Individually this report is accepted as Eider (species). Collectively this bird was ultimately accepted as a King Eider based on other written and photographic evidence.

Sharp-tailed Sandpiper

#93-048 *Dane Co.;* 24 August 1993.

This immature Pectoral Sandpiper-like bird had a distinct buffy wash to the upper breast, with less demarcated streaking on the upper breast than a pectoral has. No streaking was noted on the undertail coverts which is suggestive of a pectoral rather than a sharp-tail. The white supercilium was noted, more defined than on a pectoral. Note was not made of the white supercilium enlarging as it passed behind the eye as is characteristic of sharp-tails. In addition, the crown was described as dark, as a pectoral would be, rather than rufous or chestnut as a Sharp-tailed Sandpiper would ap-

pear. Sharp-tails would also have a more defined ear patch effect against the white supercilium and throat. This was not reported in this bird.

Though existing reports of Sharp-tailed Sandpipers in the U.S. are in late September and October in timing, this report raises intriguing possibilities. For more identification information on sharp-tailed and Pectoral Sandpipers see *American Birds,* Vol. 41, No. 5 and *Advanced Birding* by Kenn Kaufman.

Great Black-backed Gull

#93-052 *Manitowoc Co.;* 8 September 1993.

A coal-black mantled gull was noted to be only minimally larger than adjacent Herring Gulls. The bill was yellow with a red spot on the gonys. The legs were pink-gray. Of confusion to the identification were white rectangles covering 20% of the dorsal wing surface over the secondaries on both wings. The primary feather tips were black with no evidence of white spots or edges. Though Great Black-backs are classically much larger than Herring Gulls, there is a range in size such that smaller Great Black-backs may be close to the size of larger Herring Bulls. Partial albinism may explain the white wing patches; but the possibility of a hybrid must also be considered. In spite of a very thorough description, this is just one of those that doesn't fit well into any easy identification.

Common Ground Dove

#93-055 *Dodge Co.;* Late October 1993. (Photos)

These two doves were heavily scaled on the breast and wings, but also on the back. Black spots were noted on the wings, but also on the back. The tail feathers were incompletely grown out, but not square-ended in shape. The folded primaries were difficult to see; however, no rufous was evident. The dark beaks were a bit wider than usual, as is characteristic of fledgling/juvenile doves. These birds were identified as juvenile Mourning Doves in spite of the late date.

Tanager species

#93-057 *Milwaukee Co.;* 23–24 November 1993.

This female, visiting a feeder, was initially presumed to be a Scarlet Tanager, but photos showed an olive-brown general coloration to the bird rather than olive-green. The back was similar in color to the wings rather than contrasting as in Scarlet Tanagers. The bill was light in color, but the photo didn't catch the bird in profile enough to demonstrate the size of the bill to be longer in proportion to the head as in Summer Tanagers. The darker lore spot anticipated in Summer Tanagers wasn't obvious in the angles available in the photos. There were gold edgings to the wing coverts, suggestive of a Summer Tanager; but varying degrees of wear could do this to a Scarlet Tanager's coverts. Because of these inconsistencies, the committee could not come to a definitive identification. As is apparent, even with photographic evidence, because of limited angles of view, slight variances in shades of coloring, use of different photographic films, and different lighting conditions—there isn't always a consensus in identifying difficult birds. For more on female tanager identification, see *American Birds,* Vol. 42, No. 1, pp. 3–5.

Jim Frank
WSO Records Committee Chair

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John Bielefeldt is one of southeastern Wisconsin's most active ornithologists. He received WSO's Silver Passenger Pigeon Award in recognition of his many contributions to Wisconsin ornithology.

Ed Boerner (deceased) taught art at several Milwaukee High Schools in the late 1940's through the 1970's. The wood block prints featured in this issue were created for greeting cards received by the editor's family in the 1960's and 1970's. The prints are used with permission from the artist's family.

Robert C. Domagalski is a graduate of UW-Stevens Point and is an active Wisconsin birder.

Jim Frank has been one of WSO's most active contributors to Seasonal Field-Notes. He now assists WSO by compiling and summarizing the annual May Day Counts, Big Day Counts and Migration Day Counts and is the Records Committee Chair. He is a veterinarian in Milwaukee with an interest in avian medicine.

Robert Nero, resident of Manitoba, poet and frequent speaker on ornithological topics, is also author of *The Great Gray Owl: Phantom of the Northern Forest* and *Owls of North America*, nature stories for children.

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Dr. Philip C. Whitford is a professor in the Biology Department at Capitol University in Columbus, Ohio.

Thrasher

Mostly they skulk in thickets
giving us uncertain glimpses
as they perform their chores,
a flash of dappled brown
the rust of old oak leaves,
but I saw one dancing at noon
running on a hot sandy road
repeatedly pecking the ground
then swiping its head sideways
down onto the shining sand,
frenzied with ants, I guessed,
as it urgently pranced erect
before flying to shaded glades.

Catch them at dawn in song
when they perch up high singing
twice-repeated whistled phrases
melodies that quiet cows or foxes,
then their striped breast glows
that russet tail hangs still
and all the urgent woods thrill.

Robert Nero—July 1993

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