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Journal of the Wisconsin Society for Ornithology





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

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Front Cover: "Alight Trio" by Betsy Popp.

Lessons in Land Use from Italy

S is years ago, fI had the good fortune of traveling with my 81-year-old father to Italy—the first trip to Europe for both of us. The trip was great, of course; but that is not what I am going to focus my comments on here. Something that I hope will interest the WSO membership impressed me on that trip that has stuck with me ever since.

Flying over the countryside as we made our approach into the Rome airport, my father and I were struck by the contrast between the tightly defined development in villages and small cities, and the very rural landscape—a mosaic of agricultural fields, open meadows, woods, and wetlands-outside the boundaries of these small to moderate-sized urban areas. This division seemed to hold true even as we got surprisingly close to Rome. I was amazed by the degree to which Italian society had managed to preserve its rural landscape from sprawling development, especially considering that the land has been occupied by humans for millennia. I had assumed that the Italian countryside would be far more developed than what I saw out the window of our jet. It appeared at first glance, that Europeans have learned lessons in land use and landscape preservation that we here in the U.S. have either never learned, or have already forgotten in our incredibly short time here (a recent flight from Chicago to Madison on a clear day revealed patterns of poorly planned development that readily confirmed this thought). As we proceeded to travel north from Rome by train and car, my first impressions were only strengthened. The almost complete lack of sprawl and endless development as we traveled from place to place was inspiring ... and impossible not to notice. Amazingly enough, even farmhouses were rare in places, as some farmers apparently choose to live in town and "commute" out to their fields daily.

The patterns of land use I saw in Italy seem as though they ought to have profound implications on nature conservation in general, and bird habitat conservation in particular. Admittedly, just maintaining open, undeveloped land does not guarantee that good habitat—for birds or other creatures—is being preserved. For example, maintaining crop fields on the land is not generally as valuable for birds as preserving wild, natural areas would be. Nonetheless, as development fragments rural landscapes, we lose the opportunity for certain kinds of habitat conservation, especially at critical, large scales. Once buildings and roads are in place, it is exceedingly hard to revert back to natural habitat conditions. This may sound obvious almost to the point of being trite, but maintaining open, undeveloped lands seems to be a necessary first step in keeping the possibility for bird habitat conservation alive. To do this, we need to address land use patterns in a way that may impinge on our current societal and lifestyle preferences. In other words, we may need to favor living in the relatively highdensity settings of towns and cities, as opposed to low-density housing patterns that tend to fragment landscapes rather that maintain them. And-let's admit it-there is only a finite amount of land out there for us to use or conserve for birds (or, for that matter, for our great-grandchildren's great-grandchildren). A look at the changes in land use in southeast Wisconsin over the last 75 years should convince us of that.

Perhaps I have touched a nerve here, as decisions about where and how we live are very personal ones. If so, please let me know! I freely admit that I don't know all the details of the economic, political, and demographic issues that may be driving the differences between land use patterns between Italy and Wisconsin. I am also sure there is some sprawl in Italy that I just did not see much of. Nor am I up on how Italian bird populations are faring compared to ours. But, from what I saw in Italy, it appears as if they have made the important choice to live in such a way as to not close the door to preserving the definition between urban areas and rural areas. And, in the process, they have preserved the chance to maintain large landscapes free from development, and available for wildlifeincluding, of course, birds. Perhaps we should take notice, and make more of our own land use decisions with birds in mind.

David W. Somple President



Glaucous Gull with Herring Gulls recorded by Sandy Pfotenhauer.

From the Editors' Desk

Pigeon "Color" Fund

W ith this issue containing so many photos in color, it seems like a good time to mention that in 2005 WSO instituted a special fund to be used to pay for color photographs within the pages of this journal. Many of you had expressed a desire to have color used more often for bird photographs, especially those showing documented species. Numerous donations were made to the Color Fund in 2005, but only one has occurred in 2006.

Our treasurer, Christine Reel, tells us that to-date \$1,777.24 has been donated. The costs of printing the color during this same time has been \$2,470.66, of which \$327.24 was covered by an author who wished color used in his article leaving a cost of \$2,143.42. Thus, expenses over contributions has been \$366.18, before this issue was published.

If we are going to be able to continue using color for photos within the pages of this journal, more contributions to the Color Fund are needed. Thank you in advance for your generous support of this feature of *The Passenger Pigeon*.

The Editors also urge more of you to contribute articles for inclusion in the journal. The contents of The Pigeon depend on you.

Bettie and Neil Harriman, Editors



Immature Snow Goose by Sandy Pfotenhouaer.



"American Portrait" by Betsy Popp.

Introduction to the Wisconsin Bird Conservation Initiative "Issues Papers"

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The Wisconsin Bird Conservation Initiative (WBCI) is a recentlyformed cooperative partnership between government agencies and private conservation organizations who are devoted to working together to preserve habitat for birds that reside or pass through Wisconsin. Modeled after the North American Bird Conservation Initiative (NABCI), WBCI is organized into a number of different committees each charged with a different set of tasks. In the case of the Issues Committee our charges are to: 1) Keep WBCI partners up-to-date on relevant current events, including diseases, pesticides, tower kills, cats, etc. through regular communication, including the issuing of white papers, and 2) Recommend strategies to address problems. Based upon these

charges, our first order of business was to prioritize the issues of greatest conservation importance to birds in the state of Wisconsin. Following prioritization, we then moved immediately to begin work on our first charge, the development of white papers, which we have renamed "Issues Papers."

After several years of work, the Issues Committee of WBCI has now completed its first set of Issues Papers, which represented our top priorities. In order to reach the broadest possible audience and help facilitate conservation efforts, we have collected the first four Issues Papers into this issue of *The Passenger Pigeon*. These four papers address the following complex issues: Wind Power and Birds: A WBCI Issues Paper; Ethical Standards in Birding: A WBCI Issues Paper on Protecting En-

dangered, Threatened, and Rare Species; The Effects of Free-ranging Cats on Birds in Wisconsin: WBCI Issues Paper with Guidelines; and Lead Poisoning of Wisconsin's Birds: A WBCI Issues Paper. Each Issue Paper that has been published is considered a living document, and thus will be updated on-line as new research or information becomes available. We believe that the publication of these four papers is an important first step toward meeting our goal of conserving Wisconsin's avian diversity. The current online versions of these documents are available at the WBCI website, at: http://www.wisconsinbirds.org/Issues Papers.htm.

Looking forward, we see many critical issues facing Wisconsin's birds that need attention. These issues include the effects of climate change on Wisconsin's bird habitat and birds, the role of exotic bird species, pesticides and birds, Mute Swans and their effect on wetland habitat and native waterfowl, and the effects of deer herbivory on ground-nesting birds. Currently, the Issues Committee is busy drafting these Issues Papers as well as looking into other contemporary topics. Thus, we anticipate having a future set of Issues Papers that expands upon the initial set provided herein. We welcome feedback from readers, from Wisconsin Society for Ornithology members, and the public at large on these topics.

Christopher A. Lepczyk, PhD is an Honorary Fellow in the Department of Forest Ecology and Management at the University of Wisconsin-Madison. His work centers upon understanding the linkages between people, landscapes, and wildlife species, using interdisciplinary approaches. He is a member of the Wisconsin Bird Conservation Initiative (WBCI) Issues Committee, a founding member of the Milwaukee County Avian Migration Monitoring Partnership (MCAMMP) project, and has done extensive research in avian ecology and conservation in both Michigan and Wisconsin. See his website at http://www.silvis.forest. wisc.edu/people/lepczyk.asp

William Mueller is Conservation Chair of the Wisconsin Society for Ornithology, and Issues Committee Chair of WBCI. His graduate research focused on the biogeography and recent decline of the Red-headed Woodpecker, and highway mortality of birds in Wisconsin. He is currently Project Coodinator of the Milwaukee County Avian Migration Monitoring Partnership (MCAMMP). See his website at http://home.earthlink. net/~iltlawas/index.html

Wind Power and Birds: A Wisconsin Bird Conservation Initiative Issues Paper

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FACTS AND RESEARCH FINDINGS ON WIND POWER AND BIRDS

WBCI strongly advocates the use of the US Fish and Wildlife Service's Interim Voluntary Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines for site selection and construction of wind turbine installations. This document is available on-line at http://www.fws.gov/habitat conservation/wind.pdf.

The following general facts and guidelines about wind turbines and

birds are supported by current research:

a) The wind turbines now being installed have much lower rates of avian mortality associated with them than those built 25 or more years ago. The "lattice" design of towers that wind turbines used then provided perches for raptors, which allowed (and even attracted, in some instances) many more birds to be in proximity, which resulted in high mortality rates.

b) The wind turbine blade configu-

ration and size, and reduced speed of new designs, have also had the effect of lowering mortality rates.

c) No wind turbine design completely eliminates mortality of birds or other wildlife, including bats.

d) Determining the location of wind power installations may be the most important consideration in regard to limiting bird and bat mortality. Each proposed wind power installation should be scrutinized for its potential impact on nesting and migrating birds and other wildlife and native plant communities. Ideally, wind installations will be situated on already disturbed land (e.g. agricultural land) to minimize or eliminate the loss of habitat for wildlife.

e) Relative to other sources of mortality, wind power has a low impact in terms of avian mortality. See David Sibley's web site for a comparison of varied sources and effects of mortality: http://www.sibleyguides.com/mortality.htm. Among these other sources, collisions with window glass and communications towers, pesticide-caused deaths, and predation by free-ranging and feral cats are all considerably more important sources of mortality for birds.

f) The Wisconsin Department of Natural Resources has no regulatory power in the siting of wind power installations. They can only suggest voluntary guidelines. When wind farm facilities are 100 megawatts or more, the Wisconsin Public Service Commission has preemptive authority over local government decision-making authority. Local governments (county or town boards) have this responsibility when installations are below this threshold. WDNR and USFWS may however become involved in cases where threatened or endangered species are affected, or in trying to ensure that adequate studies are done. At least one local hearing would be held in a decision process, and interested parties may wish to participate in these hearings to affect their outcome.

RECOMMENDED ACTIONS

1) Become involved in the discussion about wind power facilities proposed for your area. Participate in public hearings and ask questions about how the proposed facilities might impact birds and other wildlife. Communicate concerns you may have with your county and local governments, and the facilities' planners. If discussions with these parties are not constructive, notify the media and state bird conservation organizations and networks of your concerns. Contact the WDNR and USFWS if you have reason to believe that threatened or endangered birds are likely to be affected.

2) Evaluate your use of electricity around your home and workplace. Then modify your use of electricity to eliminate the waste and unnecessary use of this valuable resource.

3) Support the use of sustainable/ renewable sources of electricity whenever and wherever they are found to be bird-safe and otherwise ecologically responsible.

ADDITIONAL RESEARCH NEEDS

Additional research is needed regarding alternate lighting sources, and the relative danger to birds posed by different wind power installation designs. Again, see American Bird Conservancy policy and guidelines at the American Bird Conservancy website (see Wind Energy Policy paper, listed below).

LINKS TO INFORMATION SOURCES

Additional links to studies, data, and the positions taken by organizations include the following. Since websites sometimes change, an efficient way to find these documents is to use the title of the paper given below, and type it into a search engine such as Google:

American Bird Conservancy Wind Energy Policy

Wildlife Management Institute paper on Wind Power

National Wind Coordinating Committee—Wildlife Interactions Research Meeting V

National Wind Coordinating Committee—Wind Turbine Interactions with Birds and Bats: A Summary of Research Results and Remaining Questions

Development of Kansas Wind Energy Resources—Kansas Energy Council

New Jersey Audubon position paper on wind energy and its effects on wildlife

Curry & Kerlinger LLC—Birds and Wind Power

Western EcoSystems Technology, Inc.—Wind Power

Toronto Hydro Energy birds and wind power

Wind Farms and Birds: BirdLife International study and report

That wind power has value as an environmentally "benign" energy source is fairly well established. Here's a link to a discussion framing this topic, written by Mike Tidwell. Find it at: http:// www.takoma.com/archives/copy/200 3/11/ecopinion.html

Mike's message is obviously "prowind-power" in this piece; describing the relationship of bird mortality to the value of wind power is a main concern of this paper. Our purpose for offering it here is simply to present one point of view.

William Mueller is Conservation Chair of the Wisconsin Society for Ornithology, and Issues Committee Chair of WBCI. His graduate research focused on the biogeography and recent decline of the Red-headed Woodpecker, and highway mortality of birds in Wisconsin. He is currently Project Coodinator of the Milwaukee County Avian Migration Monitoring Partnership (MCAMMP). See his website at http:// home.earthlink.net/~illawas/index.html

Noel Cutright is Chair of the WBCI IBA Advisory Committee and Emeritus Ecologist with We Energies. He is a past president of WSO and their current Historian. He was the lead editor for the recently published "Atlas of the Breeding Birds of Wisconsin" and has a passion for doing Breeding Bird Surveys. He was the first person to receive the WSO Green Passenger Pigeon (2005) which is given by The Society for exceptional contributions in bird conservation.

Scott Diehl has been a licensed wildlife rehabilitator and worked at Wisconsin's largest wildlife rehabilitation center for over 23 years. He has worked on wild bird advocacy initiatives throughout much of this time. For the last 10 years, Scott and his wife, Cheryl, have co-managed this wildlife rehabilitation center, which admits about 5,000 animals per year, about half of them birds. Scott has been an avid birder for about the last 27 years, and is also a licensed bird bander.

Karen Etter Hale is the Executive Secretary of the Madison Audubon Society. She is their registered lobbyist, working on a wide variety of environmental issues, especially those dealing with birds, wildlife, and habitat. Karen served as chair of the Wisconsin Waterfowl Joint Venture for over four years. She has served as chair of the Wisconsin Bird Conservation Initiative, a cooperative partnership of over 150 organizations and agencies, since its inception in 1999. Karen holds a degree in Wildlife Ecology from UW-Madison, has a life-long interest in birds, and participates in numerous citizen science projects.

Joel Trick is a Wildlife Biologist with the U.S Fish and Wildlife Service in the Green Bay Ecological Services Field Office. He has extensive knowledge and experience in Wisconsin flora, fauna, and natural communities. Joel's current work duties include a diverse range of projects ranging from land protection efforts, to wolves, Bald Eagles, and Whooping Cranes. He serves as the chair of the WBCI Wetlands and Shorelines Subcommittee, and holds a B.S. in Population Dynamics and M.S. in Environmental Sciences from the University of Wisconsin-Green Bay.

Ethical Standards in Birding: A WBCI Issues Paper on Protecting Endangered, Threatened, and Rare Species

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"No important change in ethics was ever accomplished without an internal change in our intellectual emphasis, loyalties, affections, and convictions."—Aldo Leopold

A s birders, none of us would deliberately do anything to harm the birds we all enjoy and care about so deeply. But if we are not careful, our efforts to view birds may actually cause them harm! Therefore, as ethical birders, we must be self-regulating and be willing at times to sacrifice seeing that "life" bird or capturing that perfect picture in order to protect Wisconsin's rarer birds.

How can we make sure our efforts to see or photograph these birds do them no harm?

- Always act in ways that do not endanger the welfare of birds and other wildlife.
- Observe all laws, rules, and regula-

tions for public and private birding areas.

- Limit use of recordings and similar methods of attracting birds, especially in heavily birded areas or in known locations of rare birds or those that are easily disturbed.
- Observe and photograph birds without disturbing them in significant ways.
- Avoid chasing or repeatedly flushing birds.
- Minimize adverse effects to the environment by staying on existing roads, trails, and pathways whenever possible.

The above guidelines are excerpted from the Wisconsin Society for Ornithology's (WSO) Code of Ethics. Please view the complete text at *http:// www.uwgb.edu/birds/wso/ethics.htm*.

FAQs about Birding Ethics Related to Endangered, Threatened, and Rare Species

(For a list of Wisconsin's Threatened and Endangered bird species, see this internet page: http://dnr.wi.gov/org/land/er/ working_list/taxalists/TandE. asp?mode=detail&Subject=Birds)

What's wrong with playing a tape to attract one of these birds? I'll be careful and not play the tape too much.

How much is too much? Five other people may have come along that day and also played a tape, thinking they were the only ones to do so. A bird on territory perceives this taped voice as a competitor in its territory, and it may expend time and energy investigating and challenging this "intruder," time and energy that could have gone into recovering from migration, attracting a mate, nest building, or feeding a mate and/or young.

Please note: Careful use of recordings or other means of attracting birds by experienced, sanctioned (e.g., WSO) field trip leaders may be acceptable in some situations, though not to disturb endangered or threatened species. The use of recordings by qualified researchers is yet another exception, but careful regulation of this activity must be part of an officiallyaccepted research plan.

If I don't report the rare, nesting bird I found on my birding network, other birders won't be able to see and enjoy it. Isn't this being selfish?

No, it's not. We should first think of the bird, its well-being, and the potential it has for successfully nesting. The pressures from additional visitors, even well-meaning ones, could ruin this bird's chances for nesting successfully or even surviving. So please use caution when sharing information (e.g., on online birding networks) about the locations of summering or wintering rare, threatened, endangered, or "sensitive" (easily disturbed) species, and when you do so, remind others to follow ethical birding guidelines (ABA, WSO—see below) when viewing these birds. Please only share these locations when these birds are viewable under circumstances (e.g., from roads or public hiking trails) where increased birder activity will not disturb the birds. Remember: You cannot control what happens after you reveal the location of one of these birds, and you may subject the birds to disturbance by others that could jeopardize their nesting success or even their survival!

However, please DO report your

findings to the WSO so that your sighting can be entered into Wisconsin's birding records. Reporting forms are available from: Randy Hoffman, WSO Bird Reports Coordinator, 305 Fifth St., Waunakee 53597; phone: 608. 849. 4502; e-mail: ecurlew@hotmail.com.

What's wrong with slipping quietly into a posted area to view a bird? I'm more careful than the average birder, and wouldn't disturb anything.

Besides being illegal (harassmenteven unintentional-of state- and federally-listed threatened and endangered species is prohibited by state and federal law, and carries penalties), in the case of very sensitive species, such as the Piping Plover, even a single intrusion may be enough to cause them to abandon an area. Besides, we don't know what other pressures they may be facing, such as predators, the effects of weather, food availability, and so on. Your intrusion may be the "straw that broke the camel's back" and cause nest failure. And what if everyone felt the same way you do about bypassing protections in order to view a bird? The protective measures would become meaningless and ineffective.

Ordinarily I wouldn't pursue a bird off a trail or approach closely, but isn't it important to "push the envelope" in order to document the bird?

No. Take notes of your observations, get what pictures you can from a distance, but don't pursue the bird too closely or trespass to further document the bird.

I saw someone ignore signs and bypass a fence to enter a closed nesting area. How should I handle this? Write down a description of this person and their vehicle, including the license plate number, and immediately report the incident to WDNR law enforcement or wildlife management personnel, or to the US Fish and Wildlife Service (USFWS).

Wisconsin DNR Poaching Hotline— To access the new cellular poaching hotline number, U.S. Cellular subscribers need only dial the pound (#) key, followed by "DNR"—#367. For U.S. Cellular subscribers, calls to the hotline will be free of charge, including the air time to make the call.

Wisconsin DNR Violation Hotline— 1-800-TIP-WDNR (1-800-847-9367). Use for wildlife, recreational, and environmental violations.

Internet Link to WDNR Service Centers: http://dnr.wi.gov/org/caer/cs/ ServiceCenter/locations.htm

The following are some specific examples of species and locations in Wisconsin where bird disturbance problems have arisen, or potentially could arise. This is only a partial list; other species and locations fall in this category:

- Yellow-throated Warbler at Wyalusing State Park (Grant Co.)—Please do not play tapes of their songs or calls and please observe the birds from a respectable distance so as not to disturb any possible nesting activities.
- Worm-eating Warbler in Baxter's Hollow (Sauk Co.)—Please do not play tapes of their songs or calls; please do not flush the birds repeatedly by chasing after them on the wooded hillsides, and do not approach possible nesting locations.

- Northern Goshawk nest sites in the Chequamegon and Nicolet National Forests—Please do not play tapes of their calls, nor approach possible nesting trees. Please do not reveal nesting locations on online birding networks. Please **do** report nesting locations to local WDNR Wildlife Managers (see DNR Service Centers link above).
- Piping Plover at Long Island/ Chequamegon Point (Ashland Co.), Seagull Bar (Marinette Co.), Point Beach State Forest (Manitowoc Co.) or anywhere else in Wisconsin-Please do not approach these birds nor enter posted areas designed to protect the birds! Please do report these birds to local WDNR or USFWS wildlife management personnel. Do report violations of safeguards intended to protect these birds (e.g., people entering closed areas) to WDNR or USFWS personnel. Piping Plovers are very sensitive to intrusion into their nesting area and are likely to nest only if they perceive that the area is free from disturbance. Therefore, preventing human entry into areas where they are found is essential.
- Barn Owl nest sites anywhere in Wisconsin—Please do not play tapes of their calls, approach nesting sites, or report nesting locations on online birding networks.
- Long-eared Owl on winter roosts anywhere in Wisconsin—Please do not closely approach these roosting birds, as doing so may cause them to abandon the roost site, which may adversely affect their winter survival. Please do not report roosting locations on online birding networks;

these locations will not be provided by the WSO Hotline.

- Red-shouldered Hawk nest sites anywhere in Wisconsin—Please do not play tapes of their calls, approach nesting locations, or reveal specific nest site locations on online birding networks.
- Osprey and Bald Eagle nest sites anywhere in Wisconsin—Individuals of both species vary widely in their tolerance to disturbance near their nest site. In general, please do not approach nesting sites closely. Observe from a distance so as not to disturb the birds.
- Kirtland's Warbler summering, or Whooping Crane summering or nesting anywhere in Wisconsin— Please! Individuals must NOT be disturbed under any circumstances! Report their location ONLY to WDNR Bureau of Endangered Resources staff or USFWS personnel.

To report locations of endangered birds, please contact: Kim Grveles, Assistant Zoologist/Ornithologist, Natural Heritage Inventory, Bureau of Endangered Resources, Wisconsin Department of Natural Resources, phone: 608. 266. 0822; E-mail: kim.grveles@dnr.state.wi.us

To report locations of Federallylisted endangered birds (Whooping Crane, Piping Plover, Kirtland's Warbler), please contact Joel Trick, U. S. Fish & Wildlife Service, 920. 866. 1737; E-mail: joel_trick@fws.gov.

LINKS TO ONLINE RESOURCES

Other codes of birding or bird-related ethics can be found at the following internet sources. Since websites sometimes change, an efficient way to find these documents is to use the title of the paper given below, and type it into a search engine such as Google:

American Birding Association Code of Ethics; New Hampshire Audubon -Code of Ethics; Tucson Audubon Code of Ethics; Nature Photographers' Ethics.

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William Mueller is Conservation Chair of the Wisconsin Society for Ornithology, and Issues Committee Chair of WBCI. His graduate research focused on the biogeography and recent decline of the Red-headed Woodpecker, and highway mortality of birds in Wisconsin. He is currently Project Coodinator of the Milwaukee County Avian Migration Monitoring Partnership (MCAMMP). See his website at http://home.earthlink. net/~iltlawas/index.html

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Owen Boyle is the Endangered Resources Program's ecologist for the WDNR's southeast region. He works on a variety of projects that focus on rare species (from birds to freshwater mussels, reptiles to plants), State Natural Areas, and invasive exotic species. Owen has conducted research on plants in Wisconsin, Michigan, Florida, New Jersey, North Carolina, and Germany. He holds a B.S. in Natural Resource Management from Rutgers University and a Ph.D. in Botany from UW-Madison.

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"Quiet Blue" by Betsy Popp.

The Effects of Free-ranging Cats on Birds in Wisconsin: Wisconsin Bird Conservation Initiative Issues Paper with Guidelines

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INTRODUCTION

Studies in Wisconsin and elsewhere indicate that free-ranging domestic cats (*Felis catus*) pose a threat to birds and other wildlife.

In Wisconsin, concern about freeranging cats was first highlighted in the mid 1990s, when a study by Coleman and Temple attempted to study predation by free-ranging cats on birds in rural locations across the state. Extrapolating the results from this study indicated that millions of birds were being killed annually in Wisconsin by cats. Because of the difficulty in studying any species living outdoors across the entire state, the exact number of birds killed annually by free-ranging cats will never be fully enumerated. However, over the past decade additional studies in the Midwest and elsewhere have suggested similar problems with cat predation on birds and should alert us to the fact that freeranging cats are killing large numbers of birds in Wisconsin each year. Moreover, other studies have shown that cats in some habitats may be directly competing with native avian predators, such as American Kestrels (Falco sparverius), Northern Harriers (Circus cyaneus), and Red-tailed Hawks (Buteo jamaicensis) for prey. Finally, in some habitats and locales even very low cat depredation could negatively impact the breeding success and survival of a species, especially if that species is rare or endangered.

Because of concerns raised by these and other studies, a number of nationwide efforts have been developed to encourage responsible cat ownership, most notably the American Bird Conservancy's *Cats Indoors*! program and the Humane Society of the United States' "Safe Cats" program. In our effort to address this concern in Wisconsin and provide assistance to both WBCI partners and the general public, we have outlined a set of recommended conservation actions and research needs pertaining to outdoor cats.

RECOMMENDED ACTIONS

The reduction of cat predation on native birds and other wildlife will be achieved through the involvement of cat owners, WBCI partners, state and federal agencies, non-governmental conservation, animal welfare, and animal sheltering organizations. At the present time we recommend the following guidelines to reduce the negative impacts of free-ranging cats on birds in Wisconsin:

- 1. For the welfare of both cats and birds, keep your cats indoors or under your supervision and control when outdoors, and encourage others to do the same. According to the Humane Society of the United States (HSUS), cats that are not allowed to roam outdoors typically live substantially longer than freeroaming cats. Indoor-only cats are much less likely to get lost, get parasites, become exposed to serious diseases, get hit by a car, attacked by a predator, or get in fights with other cats. Moreover, lost cats often go unclaimed at local pounds and animal shelters. For instance, in Milwaukee, only about 4% of cats that enter that city's animal control shelter are reclaimed by their owners. Help in "converting" your freeranging cat to an indoor-only cat can be found at the HSUS' "Safe Cats" website. Overcoming attitudinal barriers among the general public to keeping owned cats indoors or under their control when outdoors is one of the keys to longterm solutions to predation by cats on birds and other wildlife and reducing suffering for cats in our communities.
- 2. To help reduce the numbers of abandoned/unwanted cats, spay or neuter your cats and encourage other cat owners you know to do the same. Support low-cost or free cat spay and neuter programs at your local humane society or animal shelter and support efforts to spay or neuter all cats adopted from your local animal shelter. Many animal shelters and humane

societies are poorly funded and the only way such efforts can be undertaken is through public donations and support.

- 3. Have your veterinarian "microchip" your cats to aid in their being returned to you should they become lost, and promote voluntary identification of cats in your community. A microchip is a rice-grain-sized identification device that is quickly and easily inserted under the skin of a cat's back and can be read electronically to determine the cat's owner.
- 4. Support ordinances and initiatives in your community designed to reduce humanely and effectively the numbers of unwanted cats, decrease the number of homeless stray cats, increase the return of lost cats to their homes, increase the number of cats adopted into permanent homes, and reduce the number of cats surrendered to shelters.
- 5. Treat stray cats on your property humanely. Contact your neighbors to find out if the cats frequenting your property are owned. If they are, explain to the owners the impact their cats have on wildlife, the risks cats allowed outdoors face, and ask them to keep their cats indoors or under their control. If a cat's owner cannot be found, contact your local animal control agency for advice.
- 6. Use "habitat modification" on your property to minimize the likelihood that free-ranging cats will cause problems for wildlife: avoid feeding birds on the ground where they may be more vulnerable to predation; place your bird feeders at least several feet away from

shrubs and other cover cats may use to stalk birds; utilize non-toxic commercial repellents designed for cats or humane scare devices such as the ScareCrow by Contech Electronics Inc.

- 7. Farmers and others in the agricultural community are urged to spay or neuter the cats on their properties to control their numbers, and instead of depending on cats for rodent control, control rodents by the use of pest-proofing and environmentally safe rodent control methods. Avoid the use of rodenticides (i.e. poisons), especially outdoors, since birds-of-prey (hawks and owls) can become ill or die when they eat rodents that have consumed rodenticides.
- 8. Bird and wildlife conservation agencies and organizations, and animal welfare and sheltering agencies and organizations should work together to achieve common goals concerning cats and wildlife.

ONGOING RESEARCH AND Additional Research Needs

While the overall impact of cat predation on specific bird species at the population level in Wisconsin has not been enumerated exactly, it is clear that many free-ranging cats prey on birds. Thus, there are legitimate concerns that free-ranging cats may be a significant cause of bird mortality. With bird populations under pressure from numerous other human-initiated or -controlled threats (e.g., habitat loss and fragmentation, tower and building collisions, climate change, pollution, etc.), we need to reduce as many of these threats as possible. We have identified a number of research needs to help us better understand the effect of cat predation on birds in Wisconsin.

In an effort to enumerate numbers of cats allowed outdoors, and measure the success of educational programs that encourage people to keep their cats indoors, the WBCI Issues Committee is currently attempting to study the numbers of free-ranging cats within Christmas Bird Count (CBC) circles in Wisconsin. While covering an area of a CBC circle, participants record the number of cats seen outdoors, and note how many of these cats are seen close to a house, barn or farm outbuilding, and the number observed that are not close to such structures. If desired, the participant may simply record numbers of individuals. Collection of data began with the 2003 CBCs in Wisconsin. To include this cat survey in your Wisconsin CBC, contact Bill Mueller, Wisconsin Bird Conservation Initiative Issues Committee chair. at iltlawas@earthlink.net.

The following information is needed in order to have a more complete picture of the impacts of freeranging cats on birds and other wildlife in Wisconsin:

- In 2004, Lepczyk, Mertig and Liu studied the effects of owned, freeranging cats on birds across urban to rural landscapes in Michigan. Ideally, similar studies should be conducted across varying landscapes and communities here in Wisconsin.
- The level of bird predation by feral cats in managed colonies across varying landscapes in Wisconsin should also be studied. Nationwide, the animal welfare community is searching for humane and effective

means of controlling feral cat populations, and the establishment of managed feral cat colonies is growing in popularity. It is not well understood what threat managed feral cat colonies might pose to native bird species across urban to rural landscapes.

- Conservation biologists lack data on how specific levels of cat predation depress wildlife populations and if there are thresholds at which cat densities become a biologically significant source of mortality.
- Relatively little information exists on the human rationale of allowing cats outdoors and what factors underlie this human behavior.
- Public education efforts on this issue need to be assessed over time to investigate if people's attitudes and behaviors change.
- What role bird window collisions play in the numbers of birds recovered by free-ranging cats.

These six points represent specific next steps for conservation research on the free-ranging domestic cat in Wisconsin, but by no means is it an exhaustive list.

EDUCATIONAL INFORMATION AND RESOURCES

American Bird Conservancy's "Cats Indoors! program: Public Service Announcements; poster competition; coloring page.

Humane Society of the United States' "Safe Cats" program printable PDFs: Cat Care Basics; The Uninvited Cat; Guide to Cat Law; A Safe Cat is a Happy Cat.

Project Bay Cat. A cooperative effort between Sequoia Audubon Society, the Homeless Cat Network, and Foster City municipal government to humanely manage feral cats along the scenic Bay Trail in California. This area includes habitat for the endangered California Clapper Rail. A "tool kit" for others who wish to take similar action can be obtained free from info@homelesscatnetwork.org or call (650) 286-9013.

Position Statements and Links to Online Resources

Additional links to studies, data, and the positions taken by organizations include the following sources. Since websites sometimes change, an efficient way to find these documents is to use the title of the paper or organization given below, and type it into a search engine such as Google.

Organizations with Policy Statements and Guidelines—

The American Bird Conservancy; Cats Indoors! Campaign; Resolution on Free-roaming Cats

American Humane Association (AHA); Position statement on feral cats and their management

American Veterinary Medical Association; Position statement on feral cats and their management

Cooper Ornithological Society; Resolution on Public Policies Regarding Feral and Free-ranging Cats

Florida Wildlife Commission; Position Statement

Minnesota Department of Natural Resources; Statement on Cats and Birds

National Audubon Society; Resolution on Cats; Reducing Threats from Cats The Wildlife Society; Policy statement on feral and free-ranging domestic cats

Articles Available Online—

Cats and Wildlife: A Conservation Dilemma by John S. Coleman, Stanley A. Temple, and Scott R. Craven. Succinct discussion of the problem and what you can do to help. University of Wisconsin Extension.

Florida Fish and Wildlife Conservation Commission. Commission project to increase public awareness of the effects of free-ranging cats on wildlife.

Minnesota's Killer Kitties from Minnesota DNR.

Missouri Conservationist article by Joan McKee. Conservation Commission of Missouri.

University of Florida IFAS Extension Impacts of free-ranging pets on wildlife by Joe Schaefer.

Wisconsin Natural Resources magazine article by John Coleman and Stanley Temple.

ADDITIONAL LITERATURE

- Ash, S. J., and C. E. Adams. 2003. Public preferences for free-ranging domestic cat (*Felis catus*) management options. Wildlife Society Bulletin 31: 334–339.
- Castillo, D., and A. L. Clarke. 2003. Trap/ neuter/release methods ineffective in controlling domestic cat "colonies" on public lands. Natural Areas Journal 23: 247–253.
- Carss, D. N. 1995. Prey brought home by two domestic cats (*Felis catus*) in northern Scotland. Journal of Zoology, London 237: 678–686.
- Churcher, P. B., and J. H. Lawton. 1987. Predation by domestic cats in an English village. Journal of Zoology 212: 439–455.
- Clarke, A. L., and T. Pacin. 2002. Domestic cat "colonies" in natural areas: a growing exotic species threat. Natural Areas Journal 22: 154–159.
- Coleman, J. S., and S. A. Temple. 1993. Rural residents' free-ranging domestic cats: a survey. Wildlife Society Bulletin 21: 381–390.

- Dunn, E. H., and D. L. Tessaglia. 1994. Predation of birds at feeders in winter. Journal of Field Ornithology 65: 8–16.
- Eberhard, T. 1954. Food habits of Pennsylvania house cats. Journal of Wildlife Management 18: 284–286.
- George, W. G. 1974. Domestic cats as predators and factors in winter shortages of raptor prey. Wilson Bulletin 86: 384–396.
- Hagood, S. 2000. Cats and Wildlife. Wildlife Tracks 6(2). (quarterly publication of the Humane Society of the United States).
- Lepczyk, C. A., A. G. Mertig, and J. Liu. 2004. Landowners and cat predation across ruralto-urban landscapes. Biological Conservation 115: 191–201.
- Mead, C. J. 1982. Ringed birds killed by cats. Mammal Review 12: 183–186.
- Patronek, G. J. 1998. Free-roaming and feral cats-their impact on wildlife and human beings. Journal of the American Veterinary Medical Association 212: 218–226.
- Pearre, S. Jr., and R. Maass. 1998. Trends in the prey size-based trophic niches of feral and House Cats (*Felis catus*) L. Mammal Review 28: 125–139.
- Turner, D. C., and P. Bateson. 2000. The Domestic Cat: The Biology of its Behavior. Second Edition. Cambridge University Press.
- Woods, M., R. A. McDonald, and S. Harris. 2003. Predation of wildlife by domestic cats (*Felis catus*) in Great Britain. Mammal Review 33: 174–186.

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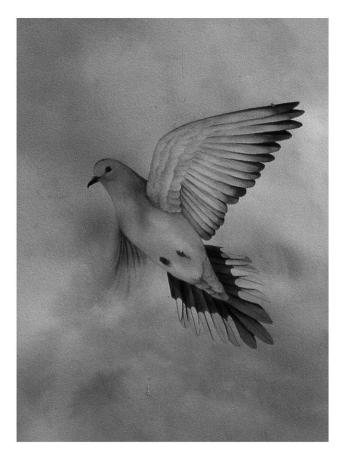
Scott Diehl has been a licensed wildlife rehabilitator and worked at Wisconsin's largest wildlife rehabilitation center for over 23 years. He has worked on wild bird advocacy initiatives throughout much of this time. For the last 10 years, Scott and his wife, Cheryl, have co-managed this wildlife rehabilitation center, which admits about 5,000 animals per year, about half of them birds. Scott has been an avid birder for about the last 27 years, and is also a licensed bird bander.

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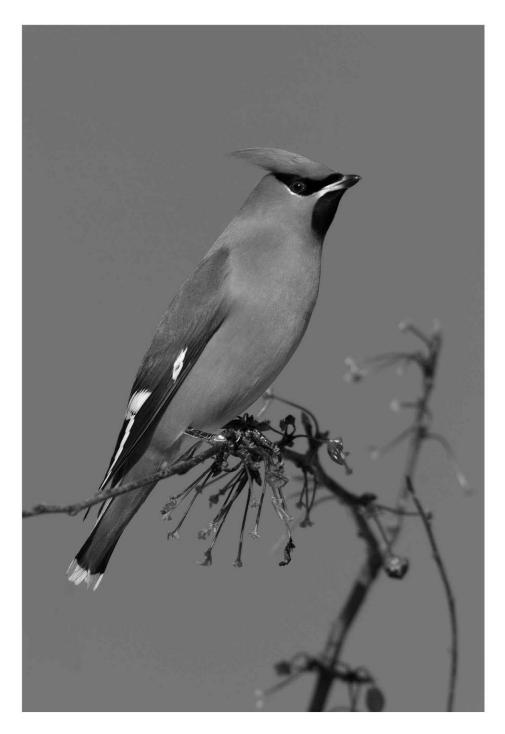
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William Mueller is Conservation Chair of the Wisconsin Society for Ornithology, and Issues Committee Chair of WBCI. His graduate research focused on the biogeography and recent decline of the Red-headed Woodpecker, and highway mortality of birds in Wisconsin. He is currently Project Coodinator of the Milwaukee County Avian Migration Monitoring Partnership (MCAMMP). See his website at http://home.earthlink. net/~iltlawas/index.html

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Lone Dove by Betsy Popp.



Bohemain Waxing photographed by Jeff Hapeman.

Lead Poisoning of Wisconsin's Birds: A Wisconsin Bird Conservation Initiative Issues Paper

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INTRODUCTION

Lead is a toxic metal, yet tons of lead are deposited in Wisconsin's environment annually through hunting, fishing, and recreational shooting. Lead deposited in the environment will persist indefinitely and will not break down over time into less-toxic compounds. Mortality due to lead poisoning has been documented in a wide variety of birds. Lead toxicity can have sub-lethal consequences that can compromise avian survival and reproductive success. Signs of lead intoxication in birds can vary but include behavioral changes (e.g., loss of escape response); lethargy; anorexia; paralysis of the crop, esophagus, proventriculus, gizzard, legs, or wings; vomiting; diarrhea; incoordination or lack of muscle control: convulsions:

anemia; and emaciation (starvation/ muscle wasting).

FACTS AND RESEARCH FINDINGS

The literature on lead poisoning of North American wildlife is extensive (see "Links" and "Additional Literature" below).

- Lead poisoning has been documented in 25 species of water birds.
- Poisoning from lead sinkers and jigs used in sport fishing is a significant source of adult Common Loon mortality, accounting for 46% of deaths in New England, 30% in Canada, and 17% in Minnesota.
- In Wisconsin, lead poisoning is a significant mortality factor for the Trumpeter Swan, an endangered species in the state. Of 110 Trum-

peter Swan carcasses submitted to the Wisconsin Department of Natural Resources (WDNR) for postmortem examination between 1991 and 2004, 34 deaths (~31%) were attributed to lead poisoning.

- Of 559 Bald Eagle carcasses submitted to the WDNR between 1994 and 2003, 68 (~12%) of those deaths were attributed to lead poisoning.
- A WDNR study published in 2004 found that some American Woodcock in Wisconsin are accumulating unusually high levels of lead in their wing bones. The exact source of the lead is not known at this time, but a dietary source for the lead is likely, and the study could not rule out lead shot in soils as the ultimate source of the lead.
- In 1992, at least 200-300 Canada Geese died as a result of acute lead poisoning from ingesting lead shot on a former trap and skeet shooting range near Lake Geneva in Walworth County, Wisconsin. The US Environmental Protection Agency reportedly spent ~ \$1.88 M on a Superfund cleanup of the site, removing ~28,000 tons of lead-contaminated soils. The most recent large-scale lead poisoning event in Wisconsin occurred when ~200 Canada Geese were collected in 1999 and again in 2000 from a location in Outagamie Co.
- Nationally, lead poisoning of waterfowl and the Bald Eagle resulted in a 1991 federal ban on the use of lead shot in waterfowl and coot hunting. In 1997 alone, the U. S. Fish & Wildlife Service (USFWS) estimated that the ban on lead shot saved 1.4 million ducks. In Canada, a study showed a decrease in lead levels in bone in waterfowl of 50–70% as a re-

sult of the ban on lead shot for waterfowl hunting in that country. These and other studies have demonstrated that switching to nontoxic shot, defined as any shot type that does not cause sickness and death when ingested by birds, can help protect bird populations and improve the environment.

- Nontoxic shot is becoming increasingly available. There are now nine shot types approved by the USFWS as nontoxic. Affordable, suitable alternatives also exist for lead fishing tackle. (See links below for sources, especially the Raptor Education Group, Inc. [REGI] website).
- In order to help protect birds from lead toxicity, certain lead fishing tackle has been banned in New Hampshire, Maine, New York, Great Britain, the Canadian national parks and national wildlife areas, and in three USFWS wildlife refuges.

RESEARCH NEEDS

WBCI encourages research aimed at understanding the extent of the problem of lead poisoning in birds in Wisconsin. Suspected cases of lead poisoning in birds should be reported to your local WDNR Warden or Wildlife Manager, so that the WDNR can better monitor the extent of the problem in the state.

RECOMMENDED ACTIONS

Use fishing sinkers and jigs made from nontoxic materials such as tin, bismuth, steel, and tungsten-nickel alloy.

Use one of nine shot types approved as nontoxic. Nontoxic shot is available

at many locations where lead-shot ammunition is sold.

Ask your local bait and tackle shop and your ammunition dealer to carry a variety of non-lead products if they don't already carry them.

Dispose of old lead sinkers and jigs properly. Turn these items in at your local hazardous waste collection site or contact a local metals recycling company. Keep lead out of the reach of children while you are awaiting proper disposal.

Spread the word. Tell others about the problem and encourage them to switch to non-lead fishing tackle and ammunition. You can help by distributing "Get the Lead Out" educational "rack cards" to your friends, local sporting goods distributors, and sportsman's clubs. Go to http://www. wisconsinbirds.org/leadpoisoning.htm to view the card online and obtain cards for distribution.

LINKS TO INFORMATION SOURCES

Additional links to studies, data, and the positions taken by organizations include the following sources. Since websites sometimes change, an efficient way to find these documents is to use the title of the paper or organization given below, and type it into a search engine such as Google:

- WBCI "Get the Lead Out" webpage;
- Wildlife Without Lead; Raptor Education Group, Inc.;
- The "lead sinker exchange" webpage of REGI, with a list of nonlead tackle suppliers/manufacturers;
- Wildlife Without Lead;
- Lead and Wildlife—A Bibliography of Selected Citations 2001;
- Let's Get the Lead Out!-Non-lead

alternatives for fishing tackle (Minnesota);

- Tufts School of Veterinary Medicine—Loons and Lead Poisoning;
- Canadian Wildlife Service—Fish Lead Free;
- State of Michigan—Lead Poisoning;
- State of Washington—The Use of Nontoxic Shot for Hunting in Washington;
- Michigan Loons—Lead Toxicosis in Michigan Loons from Ingestion of Lead Sinkers and Jigs: A Real Problem;
- National Wildlife Health Center— Fact Sheet: Lead Poisoning in Migratory Birds;
- U.S. Environmental Protection Agency—Lead and Fishing— Sinkers and Animals;
- State Environmental Resource Center—Lead Fishing Tackle;
- LoonWatch—Get the Lead Out!;
- U.S. Geological Survey—Numbers of lead poisoned Bald Eagles by state;
- Environment Canada—Toxicity of lead shot and sinkers;
- Swansociety—Swans and lead poisoning (info from a die-off in 2000 in the Pacific Northwest);
- Trumpeterswansociety—Trumpeter Swan society—more on lead poisoning of swans;
- Minnesota Public Radio—Lead sinkers and poisoning (a still effective re-telling of this information); and
- Loon Preservation Committee.

ADDITIONAL LITERATURE

- Clark, A. J. and A. M. Scheuhammer. 2003. Lead poisoning of upland foraging birds of prey in Canada. Ecotoxicology 12: 23-30.
- Sanborn, W. Lead Poisoning of North American

Wildlife from lead shot and lead fishing tackle. Draft. HawkWatch International. (This 31-page review is the best single source of information and contains 125 references through 2002.)

- Scheuhammer, A. M., S. L. Money, D. A. Kirk, and G. Donaldson. 2003. Lead fishing sinkers and jigs in Canada: Review of their use patterns and toxic impacts on wildlife. Occasional Paper 108. Canadian Wildlife Service, Ottawa.
- Scheuhammer, A. M. and S. L. Norris. 1995. A review of the environmental impacts of lead shotshell ammunition and lead fishing weights in Canada. Occasional Paper 88. Canadian Wildlife Service, Ottawa.
- Strom, S. M., K. Patnode, J. Langenberg, B. Bodenstein, T. Scheuhammer, and B. Beard. 2004. Determination of the extent and source of lead contamination in woodcock (*Scolopax minor*) from Wisconsin. Wisconsin Department of Natural Resources Final Report.

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Blue Jays Nest in an Unusual Structure

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Abstract

We describe a successful Blue Jay (Cyanocitta cristata) nest in an unusual structure on the side of a building. The nest was located near the edge of the species' range along the Front Range of the Rocky Mountains in Colorado. The nest was completely obvious, suggesting that the structure itself provided adequate cover and security for the jays. Blue Jays appear to be declining in some areas of the United States such as the Southeast. Structures such as the one we describe may be more useful in attracting Blue Jays than the nesting platforms available commercially.

Nest sites for Blue Jays (*Cyanocitta cristata*) are varied. Typical nest placements include the distal end or middle of a horizontal branch, the crotch of a bifurcated trunk (Tarvin and Woolfenden 1999), and in Colorado, "... well-hidden [in] crotches of evergreens" (Kuenning 1998). Blue Jays occasionally build nests on buildings (Tarvin and Woolfenden 1999), but such locations are rare. Platform nest structures, putatively designed for Blue Jays, are sold for attachment to buildings. There is little information about the use of such structures by jays and, given the proclivity of jays to hide their nests, the use of platforms seems unlikely. We report on a successful Blue Jay nest that was built on the side of a house in an unusual structure. This natural structure could be duplicated easily and may prove more successful in attracting Blue Jays than the



Figure 1. Nest support that was attached to the side of a hosue in Fort Collins, Colorado containing Blue Jay nest.

platform nest supports available commercially.

Although the Breeding Bird Survey (BBS) indicates that Blue Jays are declining in abundance across the United States, there is no significant decline in Fish and Wildlife Region 6 or the Western BBS Region (Sauer et al. 2005). Blue Jays breed in Colorado to just west of 105° W and are well established along the front range of Colorado (Kuenning 1998).

We attached a nest support (Fig. 1) to the southeast side of a house in Fort Collins, Colorado (105° 8' 9.5" W; 40° 35' 47.85" N) in March 2004. The fourpronged tree branch was cut from a dead cottonwood tree and was meant to attract nesting American Robins

(Turdus migratorius). The structure was screwed onto the vertical plywood siding of the house 2.6 m from the ground and 33 cm below the overhanging (0.48 m-wide) eaves. The base of the structure was 26.7×19 cm; the "crotch" was 7 cm deep. The structure and the nest were in plain view in contrast to the reported secretiveness of breeding jays and their nest locations (Bent 1946). The surrounding vegetation was uncut grass (e.g., downy brome [Bromus tectorum] and Poa spp.), exotic weeds (e.g., Canada thistle [Cirsium arvense] and leafy spurge [Euphorbia esula]), and mature blue spruce (Picea pungens), cottonwood (Populus deltoides), aspen (P. tremuloides) and Russian olive (Elaeagnus an-



Figure 2. Blue Jay nest with 5 eggs.

gustifolia) trees. A 2-m-wide irrigation ditch runs within 3 m of the house and was flowing at the initiation of nest building.

Two Blue Jays began nest building on 16 April 2005. Nearly all of the nest material was natural, predominately dead sticks from cottonwood trees. Contrary to what is reported for nests near human habitation (e.g., Tarvin and Woolfenden 1999), only one piece of man-made material was used in this nest (a small piece of white paper bag). The nest was lined with grass, rootlets, and unidentified fur. Outside dimensions of the nest were $30 \times 18 \times 13$ cm, with a few long twigs sticking out an additional 30 cm from the edge. The inner nest was 9.5 cm wide and 5 cm deep.

We observed two eggs in the nest on 25 April and two more on 27 April. A fifth egg was laid between 27 April and 2 May (Fig. 2). Eggs were light olive with cinnamon speckling, and size was typical (Tarvin and Woolfenden



Figure 3. Five recently hatched Blue Jays.

1999), ranging from 27.2 to 28.6 mm in length and from 21.0 to 21.5 mm in width. All 5 eggs hatched (Fig. 3) between the morning of 14 May and 14:00 (MST) on 15 May. The incubation period (sensu Tarvin and Woolfenden 1999) was 17 days and the nestling period was 21 days, both values being within the range reported for Blue Jays (Ehrlich et al. 1988, Kuenning 1998, and Tarvin and Wolfenden 1999).

Male and female jays were attentive in feeding chicks, vocalizing, and swooping at human intruders in the area. By 25 May all five chicks were feathered. On 31 May there were only four chicks in the nest. We did not find the chick on the ground and it is unlikely that it fell out of the nest. The nest was built in the shallow (7 cm) crotch of the structure with the wall of the building protecting approximately 40% of the nest edge. At least 4 cm of support structure protruded out from under approximately 43% of the nest edge. The four prongs of the structure protected about 20% of the nest edge and rose above the nest by least 7 cm. On 2 and 3 June, four chicks were observed standing at the edge of the nest with the parents nearby. The chicks presumably fledged sometime between 12:00 on 3 June and 12:00 on 4 June.

Differences between this natural support and an example of those available commercially are mainly size: the natural support is larger in general, although the horizontal dimension is similar, and the "crotch" is about five times as deep. Likely the most appealing aspect of the natural structure is the camouflage and security afforded to nestlings by the four prongs of the tree branch.

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LITERATURE CITED

- Bent, A. C. 1946. Life Histories of North American Jays, Crows and Titmice. Smithsonian Institution, United States National Museum Bulletin 191: 32-52, the treatment contributed by Winsor Marrett Tyler. Reprinted by Dover Publications, Inc., 1964, but in two parts with continuous pagination; the cited article falls in Part I.
- Ehrlich, P., D. Dobkin, and D. Wheye. 1988. The Birder's Handbook: A Field Guide to the Natural History of North American Birds. Simon and Schuster Inc., New York.

- Kuenning, R. R. 1998. Blue Jay. Pages 316–317 in H. E. Kingery, (Ed.). Colorado Breeding Bird Atlas. Colorado Bird Atlas Partnership and the Colorado Division of Wildlife, Denver, CO.
- Sauer, J. R., J. E. Hines, and J. Fallon. 2005. The North American breeding bird survey, results and analysis 1966–2004. Version 2005.2. U.S. Geological Survey, Patuxent Wildlife Research Center, Laurel, MD.
- Tarvin, K. A., and G. E. Woolfenden. 1999. Blue Jay (*Cyanocitta cristata*). *In* The Birds of North America, No. 469 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.

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Great Horned Owl youngster photographed by Abigail Leese.

The Breeding Season for Wisconsin's Birds

Bettie Harriman

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few months ago Noel Cutright 🕰 was reading an article by Franklin Haas (2002) about Pennsylvania's "Breeding" Season, and, as you would expect, this made him wonder about the "breeding" season for Wisconsin's birds. If you read The Passenger Pigeon you know that the journal is timed to the four "seasons" —as defined by how birders view birds. We talk about the Winter season, the two migration seasons, and Summer, which we define as June and July (certainly not what many people would consider summer in Wisconsin). To most birders June-July means the breeding season for "our" birds. But is it?

Table 1 is a list of the species that have been confirmed as presently breeding in Wisconsin from either the Wisconsin Breeding Bird Atlas (Atlas) data which are on file at the Atlas Data Management Center at UW-Green Bay or *Wisconsin Birdlife* (Robbins 1991). The earliest and latest dates for observations of nest-building (NB), adult on the nest (ON) and a nest with eggs (NE), a nest with young (NY), and fledglings (FL) are given. The codes ON and NE were combined because usually the on nest observation is for an adult sitting on eggs. The Atlas code for seeing an adult bird feeding young or carrying food was not included as a separate column because it is not possible to know if an adult carrying food is going to feed a youngster in the nest or a recently fledged young. If the dates for this code given in the Atlas data expanded the total breeding period for a species, then the dates were incorporated into the last column of Table 1, Total Range of Breeding.

I did not search into the literature for additional information on the dates various breeding activities occur, but certainly some additional dates are known from research in Wisconsin on specific species and from the breeding surveys done by the Wisconsin Department of Natural Resources (WDNR) for game birds and some endangered and threatened species.

By checking Table 1, you will find that every month of the year has had confirmed breeding observed for at least one species. The earliest date in the Atlas records was for a Northern Goshawk on the nest on 19 January, with a Great Horned Owl nest with eggs on 20 January from Robbins (1991) a close second. There are several records for February observa-

The Breeding Season for Wisconsin's Birds

Table 1. The range of observations for each breeding code is given in the columns below from earliest to latest dates as recorded in Wisconsin Breeding Bird Atlas data or from *Wisconsin Birdlife* (Robbins 1991). If the same date is repeated in a column for a species (ex. 20 Apr-20 Apr) it indicates only one record was found. Dates from Robbins are in italics. If both day and month are in italics it indicates that both are different than in the Atlas data, if only the day is in italics, then the month is the same in both Robbins and the Atlas.

Species	Early-late dates	Early-late dates	Early-late dates	Early-late dates	Total Range
	Nest-Building	On-Nest and Nest with Eggs	Nest with Young	Fledglings	Breeding
Acadian Flycatcher	6 Jun–18 Jun	28 May-25 Jul	12 Jun–11 Aug	20 Jun–25 Jul	26 May–11 Aug
Alder Flycatcher	22 May–22 Jun	5 Jun-26 Jul	20 Jun–23 Jul	8 Jul–19 Aug	22 May-19 Aug
American Bittern	, ,	13 May–14 Jul		1 Jul–6 Aug	13 May-6 Aug
American Black Duck		3 May-4 Jul	6 Jul–14 Jul	4 May-15 Aug	3 May-15 Aug
American Coot		1 May–31 Jul	20 Jun–20 Jun	8 Jun–2 Sep	1 May-2 Sep
American Crow	11 Mar–16 Jul	24 Mar–29 Jul	19 Apr-20 Jul	10 May-6 Aug	11 Mar-14 Aug
American Goldfinch	21 Jun–25 Aug	22 May–5 Sept	1 July-25 Sept	30 May-30 Sept	22 May-3 Oct
American Kestrel	22 Apr-30 Apr	21 Mar-28 Aug	23 May-17 Jul	12 May–24 Aug	21 Mar-28 Aug
American Redstart	19 May–2 Jul	14 May-19 Jul	14 Jun–21 Jul	15 Jun-26 Aug	14 May-27 Aug
American Robin	3 Apr–13 Jul	7 Apr–12 Aug	25 Apr–12 Sep	1 May-20 Sep	3 Apr-20 Sep
American White Pelican	1 0	20 Jun–20 Jun	28 Jun–13 Jul	26 Jul–26 Jul	20 Jun–26 Jul
American Wigeon		Ž2 Maγ−Ž Jul	0 0	17 Jun–1 Aug	22 May-1 Aug
American Woodcock		31 Mar–30 Jun	26 May–25 Jul	25 Apr–12 Aug	31 Mar-12 Aug
Bald Eagle	31 Mar–26 Jun	5 Mar–18 Jul	13 Apr–17 Aug	11 May–16 Aug	5 Mar–17 Aug
Baltimore Oriole	15 May–21 Jul	14 May–18 Jul	29 May–2 Aug	12 Jun–22 Aug	14 May-22 Aug
Bank Swallow	2 May-1 Jul	4 May-26 Jul	8 Jun–16 Jul	2 Jun–22 Jul	2 May-26 Jul
Barn Owl	, 0	20 Apr-2 Öct	17 Nov-17 Nov	5 Jun–20 Aug	20 Apr-17 Nov
Barn Swallow	7 May–24 Jul	3 May–17 Aug	25 May–11 Sep	26 May-22 Aug	3 May–11 Sep
Barred Owl	, ,	1 Mar–10 Jun	28 Mar–19 Jun	8 Apr–21 Aug	1 Mar-21 Aug
Bell's Vireo	8 Jun–8 Jun	28 May–14 Jul	23 Jun–25 Jul	9 Jul–29 Jul	28 May–29 Jul
Black Tern	7 Jun–8 Jun	16 May-25 Jul	15 Jun–24 Jul	18 Jun–15 Aug	16 May-15 Aug
Belted Kingfisher	29 Apr-1 Jul	22 Apr–29 Jul	2 Jun–28 Aug	14 Jun–12 Aug	22 Apr–28 Aug
Black-and-white Warbler	1 0	28 May-3 Jul	24 Jun–14 Aug	28 Jun–11 Aug	28 May-16 Aug
Black-backed Woodpecker		8 May– <i>30 Jun</i>	6 Jun–25 Jun	10 Jul–28 Jul	8 May–28 Jul
Black-billed Cuckoo	23 May–29 Jun	22 May-23 Aug	16 Jun–6 Aug	21 Jun-10 Aug	22 May-28 Aug
Black-capped Chickadee	27 Mar–21 Jul	22 Apr-23 Jul	14 May–2 Aug	12 May–31 Aug	27 Mar–31 Aug
Black-crowned Night-Heron	20 Apr–20 Apr	2 May - 27 Jul	13 Jun–28 Jun	5 Jul–19 Aug	2 May-19 Aug

Black-necked Stilt				10 Jul–10 Jul
Black-throated Blue Warbl		10 Jun–12 Jul	26 Jun–10 Jul	24 Jul–2 Aug
Black-throated Green War		2 Jun–25 Jul	20 Jun–18 Jul	18 Jun–14 Aug
Blackburnian Warbler	6 Jun–15 Jun	<i>26 May</i> –20 Jul	25 Jun–30 Jul	10 Jun–12 Aug
Blue Jay	15 Apr–4 Jul	26 Apr–20 Jul	16 May–2 Aug	12 May–31 Aug
Blue-gray Gnatcatcher	1 May–5 Jul	14 May–10 Jul	5 Jun–10 Aug	10 Jun–23 Aug
Blue-headed Vireo	1 Jun–27 Jun	28 May–5 Jul	8 Jun–12 Aug	2 Jul–15 Aug
Blue-winged Teal		18 Apr– <i>12</i> Jul	26 May–29 Jun	29 Apr–28 Aug
Blue-winged Warbler	<i>14</i> May–16 Jun	<i>17 May</i> –1 Jul	11 Jun–6 Jul	24 Jun–16 Aug
Bobolink	26 May–12 Jun	17 May–16 Jul	8 Jun–6 Jul	14 Jun–19 Aug
Boreal Chickadee			20 Jun–20 Jun	1 Jun–9 Aug
Brewer's Blackbird	10 May–16 Jun	1 May–8 Jul	17 Jun–7 Jul	12 Jun–2 Aug
Broad-winged Hawk	2 Jul–2 Jul	1 May–17 Jul	7 Jun–21 Jul	21 Jun–10 Aug
Brown Creeper	6 Apr–8 Jun	29 Apr–1 Jul	30 May–22 Jul	7 Jun–1 Sep
Brown-headed Cowbird	31 May–31 May	27 Apr–27 Jul	25 May–26 Jul	15 May–27 Aug
Brown Thrasher	6 May–23 Jun	5 May–2 Aug	25 May-20 Aug	20 May–5 Aug
Canada Goose	22 Apr–26 Jun	<i>4</i> Apr–22 Jul	28 Apr–30 Jul	15 Apr–17 Aug
Canada Warbler	20 Jun–20 Jun	8 Jun–28 Jul	22 Jun–18 Jul	27 Jun–15 Aug
Cape May Warbler	1 Jun–1 Jun	11 Jun–11 Jun	21 Jun–26 Jun	8 Jul–1 Aug
Carolina Wren		10 May–11 May		12 May–12 Aug
Caspian Tern		30 May-4 Jul		, 0
Cattle Egret		26 May–23 Jul	28 Jun–26 Jul	26 May–26 Jul
Cedar Waxwing	20 May–17 Aug	23 May– <i>12</i> Sep	23 Jun–14 Šep	15 Jun–29 Šep
Cerulean Warbler	14 Jun–14 Jun	2 Jun–8 Jul	23 Jun–1 Jul	7 Jul–12 Aug
Chestnut-sided Warbler	25 May–8 Jul	27 <i>May</i> –15 Jul	15 Jun–15 Jul	21 Jun–27 Aug
Chimney Swift	7 May–12 Jul	11 May-4 Aug	22 Jun–8 Aug	3 Jul–29 Sep
Chipping Sparrow	24 Apr-1 Aug	23 Apr-12 Aug	8 May–10 Aug	20 May-23 Aug
Clay-colored Sparrow	20 May-19 Jul	30 May-7 Jul	5 Jun–13 Jul	6 Jun–12 Aug
Cliff Swallow	7 May–9 Jul	11 May-3 Aug	31 May–21 Aug	8 Jun–5 Sep
Common Goldeneye	2 3	, 0	, 6	31 May–12 Jul
Common Grackle	27 Mar–15 Jun	<i>15</i> Apr–29 Jul	4 May–15 Jul	2 May–5 Aug
Common Loon	15 May–29 Jun	17 May–3 Jul	6 Jun-4 Šep	20 May-5 Sep
Common Merganser	2 3	27 May–11 Jun	24 May-24 May	15 May-21 Aug
Common Moorhen		23 May-30 Jul	23 Jun–23 Jun	15 Jun–23 Aug
Common Nighthawk		21 May–24 Jul	8 Jun–23 Jul	26 Jun–20 Aug
Common Raven	5 Mar–5 Mar	<i>16 Feb</i> –4 Jun	13 Apr–17 Jun	10 Apr-14 Aug
Common Tonn		27 Mary 6 Aug	19 Jun 5 Jul	90 Jun 16 Aug

27 May-6 Aug

Common Tern

10 Jul-10 Jul 10 Jun–2 Aug 30 May–14 Sep 26 May–20 Aug 15 Apr–31 Aug 1 May–23 Aug 28 May-15 Aug 18 Apr–28 Aug 14 May–24 Aug 17 May–19 Aug 1 Jun–9 Aug 1 May–3 Aug 1 May–10 Aug 6 Apr–1 Sep 27 Apr–27 Aug 5 May–30 Aug 4 Apr-17 Aug 8 Jun–15 Aug 1 Jun–1 Aug 10 May–12 Aug 30 May–4 Jul 20 May–29 Sep 2 Jun–12 Aug 25 May-27 Aug 7 May-29 Sep 23 Apr-5 Sep 20 May–12 Aug 7 May–12 Aug 7 May–5 Sep 31 May–12 Jul 27 Mar–21 Aug iy–5 Åug 15 May-5 Sep –21 Aug 15 May-21 Aug 23 May-23 Aug

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21 May-20 Aug

16 Feb–23 Aug

27 May-16 Aug

20 Jun–16 Aug

13 Jun–5 Jul

Species	Early-late dates	Early-late dates	Early-late dates	Early-late dates	Total Range
		On-Nest and			
	Nest-Building	Nest with Eggs	Nest with Young	Fledglings	Breeding
Common Yellowthroat	31 May-30 Jul	19 May–8 Aug	2 Jun–20 Jul	3 Jun–7 Sep	19 May-7 Sep
Connecticut Warbler	, 3	8 Jun–14 Jul	7 Jul–7 Jul	6 Jul-27 Jul	8 Jun–15 Aug
Cooper's Hawk	17 Mar–21 May	1 Apr–30 Jul	11 May–1 Aug	12 Jun–1 Šep	17 Mar–1 Sep
Dark-eyed Junco	6 Jun–6 Jun	<i>16 May–24</i> Jun	13 Jul–13 Jul	8 Jun-12 Aug	16 May–12 Aug
Dickcissel	1 Jun–9 Jul	28 May-3 Aug	3 Jul–15 Aug	13 Jun–15 Aug	28 May-17 Aug
Double-crested Cormorant	19 Jun–25 Jun	20 Apr-29 Jul	26 May-12 Jul	15 Jun–28 Jul	20 Apr-24 Aug
Downy Woodpecker	26 Jun–26 Jun	5 May–22 Jul	14 May–30 Jul	9 May–2 Sep	5 May–2 Sep
Eastern Bluebird	23 Mar–3 Aug	12 Mar–12 Aug	29 Mar–20 Aug	23 Apr–26 Aug	12 Mar-2 Sep
Eastern Kingbird	21 May–4 Jul	21 May–14 Aug	8 Jun–9 Aug	11 Jun–31 Aug	21 May-31 Aug
Eastern Meadowlark	10 May–26 Jun	1 May-16 Jul	4 May–30 Jul	29 May–6 Sep	1 May-6 Sep
Eastern Phoebe	1 Apr–22 Jul	14 Apr–7 Aug	6 May–7 Aug	3 May-21 Aug	1 Apr-21 Aug
Eastern Screech-Owl		2 Mar–18 Jul	14 Mar–23 Jun	21 Apr-10 Sep	2 Mar-10 Sep
Eastern Towhee	5 May–18 Jun	17 May–21 Jul	11 Jun–23 Jul	6 Jun–4 Sep	5 May-4 Sep
Eastern Wood-Pewee	29 May–11 Jul	22 May–1 Aug	17 Jun–3 Sep	14 Jun–8 Sep	22 May-23 Sep
European Starling	15 Mar–30 Jun	14 Mar–24 Jul	30 Apr–9 Aug	29 Apr-22 Aug	14 Mar-15 Sep
Evening Grosbeak	28 May–10 Jun	6 Jun–14 Jun	15 Jun–25 Jun	12 Jun–24 Aug	28 May-1 Sep
Field Sparrow	2 May-20 Jul	6 May-16 Aug	21 May–24 Aug	29 May–19 Aug	2 May-10 Sep
Forster's Tern	, 3	27 May–20 Jul	31 May–7 Jul	26 Jun–13 Jul	27 May–20 Jul
Gadwall		26 May-8 Jul		13 Jun–13 Aug	26 May–13 Aug
Golden-crowned Kinglet	8 Apr–8 Apr	7 Jun–19 Jun	9 Jun–8 Jul	2 Jun–29 Aug	8 Apr–29 Aug
Golden-winged Warbler	1 Jun–1 Jun	27 May–1 Jul	5 5	23 Jun–23 Aug	27 May-23 Aug
Grasshopper Sparrow	25 Jun–25 Jun	20 May-28 Jul	10 Jun-12 Aug	14 Jun–23 Jul	20 May-12 Aug
Gray Catbird	9 May–16 Jul	30 Apr-11 Aug	10 May-20 Aug	30 May–18 Sep	30 Apr-18 Sep
Gray Jay	late February	20 Mar-15 Apr	30 Mar-13 Apr	18 Apr–23 Jul	late Feb–28 Jul
Gray Partridge	~	21 Apr-5 Aug	L	15 Jun-17 Aug	21 Apr-17 Aug
Great Black-backed Gull		1 0	15 Jun–15 Jun	5 5	15 Jun–15 Jun
Great Blue Heron	27 Mar–25 Jun	29 Mar–18 Jul	20 May–18 Jul	29 May–24 Aug	27 Mar–24 Aug

Great Crested Flycatcher Great Egret Great Gray Owl Great Horned Owl Greater Prairie-Chicken Green Heron Green-winged Teal	25 May–26 Jun	22 May–30 Jul 9 Apr–1 Jul 20 Jan–29 Jun 15 Apr–10 Jul 11 May–24 Jul 29 May–6 Jul	11 Jun–23 Jul 3 Jun– <i>31</i> Jul <i>2 Apr</i> –10 May 2 Feb–9 Jun 6 Jun–24 Aug 15 Aug–15 Aug	16 Jun–29 Aug <i>30 Jun–</i> 11 Jul <i>14 May–14 May</i> 10 Feb–3 Sep 22 Jun–4 Aug 21 May–27 Aug 18 May–9 Aug	22 May–29 Aug 9 Apr–31 Jul 2 Apr–14 May 20 Jan–3 Sep 15 Apr–4 Aug 11 May–27 Aug 18 May–15 Aug
Hairy Woodpecker Henslow's Sparrow Hermit Thrush Herring Gull Hooded Merganser Hooded Warbler Horned Grebe Horned Lark House Finch	15 May–18 Jul 30 May–28 Jun 21 Mar–13 Apr 2 Apr–21 Jul	10 Apr–5 Aug 22 May–11 Jul 19 May–11 Aug 4 May–30 Jul 11 Apr–15 Aug 27 May–15 Jul 5 Jun–11 Jun 23 Mar–17 Jul 31 Mar–15 Aug	16 May–25 Jul 29 May–15 Aug 29 May–28 Jun 9 May–3 Jul 13 Jun–5 Jul 15 Apr–30 Jun 22 Apr–16 Aug	26 Apr-31 Aug 2 Jun-5 Aug 15 Jun-15 Aug 31 May-9 Aug 12 Apr-10 Aug 5 Jul-16 Jul <i>15 Jun-</i> 4 Sep 18 Apr-28 Jul 29 Apr-27 Aug	10 Apr-31 Aug 22 May-10 Aug 19 May-15 Aug 4 May-15 Sep 11 Apr-15 Aug 27 May-16 Jul 5 Jun-4 Sep 21 Mar-2 Aug 31 Mar-2 Sep
House Sparrow House Wren	2 Mar–29 Jul 11 May–8 Jul	20 Mar–30 Aug 3 May–25 Sep	25 Apr–3 Sep 25 May–31 Aug	13 May–14 Sep 30 May–26 Aug	2 Mar–14 Sep 3 May–31 Aug
Indigo Bunting	7 May–19 Jul	15 May–11 Aug	11 Jun–2 Aug	12 Jun–12 Sep	7 May–13 Sep
Kentucky Warbler Killdeer King Rail	24 Apr–13 Jun	11 Jun–18 Jun 4 Apr–24 Jul 18 May–7 Jul	13 Apr–20 Jul	FY -20 Jun–29 Jul 6 May–6 Sep 25 Jun–25 Jun	11 Jun–29 Jul 4 Apr–6 Sep 18 May–25 Jun
Lark Sparrow Le Conte's Sparrow Least Bittern Least Flycatcher Lesser Scaup Lincoln's Sparrow Loggerhead Shrike Long-cared Owl	18 May–5 Jul	5 May-7 Jul 6 May-5 Jul 14 May-2 Aug 30 May-22 Jul 20 May-12 Jul 21 Apr-5 Jul 22 Mar-19 May	22 Jul–28 Jul 6 Jun–26 Jul 1 Jun–2 Jul 28 May–28 May	15 Jun–9 Jul 12 Jul–18 Jul 26 Jun–15 Aug 17 Jun–24 Aug 25 Jun–18 <i>Jul</i> 30 Jun–11 Aug 11 Jun–3 Aug 13 May–22 Jul	5 May–26 Jul 6 May–21 Jul 14 May–15 Aug 18 May–24 Aug 25 Jun–18 Jul 20 May–11 Aug 21 Apr–3 Aug 22 Mar–22 Jul
Louisiana Waterthrush	8 Jun–12 Jun	5 May–29 Jun	8 Jun–8 Jun	11 Jun–11 Jun	5 May–19 Jul
Magnolia Warbler Mallard	6 Jun–6 Jun 10 May–15 May	30 May–30 May 2 Apr–19 Aug	11 Jun–19 Jul 7 May–1 Jul	2 Jul–2 Aug 24 Mar–24 Aug	30 May–2 Aug 24 Mar–24 Aug (Continued)

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Species	Early-late dates	Early-late dates	Early-late dates	Early-late dates	Total Rang
	N D. 111	On-Nest and	NT . 1.1 X7	יוויד	
	Nest-Building	Nest with Eggs	Nest with Young	Fledglings	Breedin
Marsh Wren	10 Jun–19 Jun	26 May–28 Jul	25 Jun–24 Jul	26 Jun–12 Sep	26 May–12 Se
Aerlin		15 May–7 Jul	25 May–5 Aug	20 Jun–12 Aug	15 May–12 Au
Mourning Dove	11 Mar–9 Aug	10 Mar– <i>13</i> Sep	8 Apr–5 Oct	15 Apr–7 Oct	10 Mar–7 O
Mourning Warbler	2 Jun–2 Jun	<i>22 May</i> –20 Jul	4 Jun–21 Jul	14 Jun–18 Aug	22 May–18 Au
Aute Swan		28 Apr– <i>10</i> Jun		30 May–23 Sep	28 Apr–23 Se
Nashville Warbler	3 Jun–7 Jun	21 May–22 Jul	11 Jun–25 Jul	18 Jun–23 Aug	21 May–23 Au
Nelson's Sharp-tailed Sparre	ow	, ,		FY -26 Jun–15 Jul	26 Jun–15 J
Northern Bobwhite		5 May–31 May		20 May–1 Sep	5 May–1 Še
Northern Cardinal	15 Apr–10 Jul	14 Apr-14 Sep	24 Apr- <i>15</i> Sep	19 May-25 Sep	14 Apr–14 O
Northern Flicker	26 Apr–26 Jun	25 Apr-7 Aug	27 May-30 Jul	5 Jun-4 Sep	25 Åpr–4 Se
Northern Goshawk	1 5	19 Jan–1 Aug	22 May–10 Jul	10 Jul-6 Aug	19 Jan–6 Au
Northern Harrier	25 May–25 May	20 Apr-5 Aug	13 Jun–17 Jul	11 Jun-15 Aug	20 Apr–15 Au
Northern Mockingbird	16 May–16 May	16 May-2 Jul	3 5	16 Jun–1Aug	16 May–25 Au
Northern Parula	15 May-12 Aug	8 Jun–22 Jul	14 Jul–14 Jul	25 Jun–29 Aug	15 May-29 Au
Northern Pintail	,	23 May-1 Jul	5 ··· 5 ··	10 Jun–26 Jun	23 May-1 J
No. Rough-winged Swallow	23 Apr–30 Jun	12 May–17 Jul	2 Jun–25 Jul	7 Jun–28 Jul	23 Apr-10 Au
Northern Saw-whet Owl	F 1 5	<i>18 Mar</i> –14 Jun	30 Apr– <i>24</i> Jun	1 May–10 Jun	18 Mar–24 Ju
Northern Shoveler		27 May–28 Jun	•••-PJ	21 May–14 Aug	21 May–14 Au
Northern Waterthrush	12 May–12 May	<i>16 May</i> –14 Aug		17 Jun–26 Aug	12 May–26 Au
Olive-sided Flycatcher	13 Jun–13 Jun	2 Jun–11 Jul	11 Jul–21 Jul	4 Jul–4 Jul	2 Jun–15 Au
Orchard Oriole	21 May–22 Jun	21 May–5 Aug	12 Jun–20 Jul	18 Jun–31 Jul	21 May-5 Au
Dsprey	11 Apr–7 Jul	15 Apr–9 Aug	19 May–10 Aug	10 May–3 Sep	11 Apr-3 Se
Dvenbird	21 May–10 Jul	20 May–29 Jul	4 Jun–7 Aug	11 Jun–19 Aug	20 May–19 Au
Palm Warbler		20 May-20 May	29 June-29 June	4 Jul–7 Aug	20 May–7 Au
Peregrine Falcon		<i>13 Apr</i> –23 Jun	2 May–21 Jun	7 Jun–6 Jul	13 Apr-6 J
Philadelphia Vireo		Γ_{F} Γ_{F} Γ_{F} Γ_{F}	31 Jul–31 Jul	. jan * jan	31 [ul–31]
Pied-billed Grebe	25 Apr–26 Jun	22 May-12 Aug	12 Jun–22 Jul	1 Jun–16 Sep	25 Apr-16 Se
Pileated Woodpecker	5 Jun–26 Jun	27 Apr–13 Aug	20 May-20 Jul	5 Jun–8 Sep	27 Apr-8 Se
ine Siskin ine Warbler	7 Mar–20 May 13 Jul–13 Jul	30 Mar–6 Jul 15 Jun–10 Jul	7 May–4 Jul 2 Jul–2 Jul	17 Apr–22 Jul 20 Jun– <i>15</i> Aug	7 Mar–12 Au 15 Jun–15 Au
Piping Plover	20 Jan 20 Jan	28 May-10 Jul		23 Jul–23 Jul	28 May–23 J
Prothonotary Warbler	1 Jun–1 Jun	28 May-1 Jul	12 Jun–16 Jul	22 Jun–3 Aug	28 May-3 Au
Purple Finch	21 May–11 Aug	22 May-11 Aug	27 May–23 Jun	22 May–17 Aug	20 May-17 Au
urple Martin	21 May–4 Jul	22 Apr–7 Aug	31 May–1 Aug	3 Jun–3 Aug	22 Apr-7 Au
Red Crossbill	<i>13 Mar</i> –19 Apr	17 Apr–9 Jun	11 May–11 May	<i>10</i> May–19 Jul	13 Mar–28 J
Red-bellied Woodpecker	23 Mar–23 Mar	28 Apr-24 Jul	6 May–10 Aug	14 May–12 Sep	23 Mar-12 S
Red-breasted Merganser		6 Jun-25 Jul		9 Jun-30 Aug	6 Jun–30 Au
Red-breasted Nuthatch	12 Apr–20 Jun	3 May–14 Aug	24 May-4 Jul	4 Jun–10 Sep	12 Apr–10 Se
Red-eved Vireo	20 May-19 Jul	20 May-30 Jul	18 Jun–30 Jul	10 Jun–12 Sep	20 May-14 Se
Red-headed Woodpecker	40 may 10 Jui	30 Apr-30 Jul	6 Jun–2 Sep	13 Jun–2 Sep	30 Apr-2 Se
Red-necked Grebe	25 Apr–21 May	9 May-6 Jul	19 Jun–5 Aug	16 Jun–2 Sep 16 Jun–3 Aug	25 Apr-5 Ai
Red-shouldered Hawk	19 May-15 Jun	1 Apr-8 Jul	7 May-9 Jul	14 Jun=97 Aug	1 Apr-97 Au

Red-necked Grebe 25 Apr-21 May Red-shouldered Hawk 12 May-15 Jun Red-tailed Hawk 25 Feb-9 Jul Red-winged Blackbird 18 Apr-26 Jul Redhead Ring-billed Gull Ring-necked Duck **Ring-necked Pheasant** Rock Pigeon 25 Mar-12 Jul Rose-breasted Grosbeak 8 May-6 Jul 27 Jun–27 Jun Ruby-crowned Kinglet Ruby-throated Hummingbird 20 May-30 Jun

> 25 Mar-20 May 15 Jun-20 Jul

19 May-3 Jul

10 Apr-10 Apr

2 Jul-2 Jul

Rusty Blackbird Sandhill Crane Savannah Sparrow Scarlet Tanager Sedge Wren Sharp-shinned Hawk Sharp-tailed Grouse Short-eared Owl Snowy Egret

Ruddy Duck

Ruffed Grouse

9 May-6 Jul 1 Apr-8 Jul 4 Mar-19 Jul 16 Apr-23 Jul 10 Jun-3 Jul 24 Apr-4 Jul 28 Apr-8 Jul 11 May-20 Åug 15 Mar–9 Aug 17 May-1 Aug 30 Jun-30 Jun 18 May-5 Aug 20 May-9 Aug 20 Apr-30 Jun 11 May-11 May 22 Mar–6 Jul 16 May–19 Jul 28 May–21 Jul 17 May-26 Jul 4 May-20 Jul 15 Apr-30 Jun 25 Apr-10 May 15 Jun-9 Jul

19 Jun–5 Aug 7 May-9 Jul 3 Mar-9 Aug 4 May-30 Jul 31 May-28 Jun 14 Feb-4 Sep 5 Jun–21 Jul 26 Jun-4 Jul 11 Jun-1 Sep 12 Jun-12 Jun 21 May-25 Jul 11 May-11 May 9 May–21 Jun 24 May–20 Aug 15 Jun-29 Jul 17 May-26 Jul 9 Jun-27 Jul 8 May-15 Jun

9 Jul-11 Jul

16 Jun–3 Aug 14 Jun-27 Aug 1 May-23 Aug 4 May-11 Aug 28 Jun-18 Aug 19 Jun–9 Aug 25 May-16 Aug 12 May–7 Sep 5 Mar–12 Dec 4 Jun-30 Aug 23 Jun-29 Jul 10 Jun-15 Šep 14 Jun-16 Aug 3 May-22 Aug 11 Jul-11 Jul 17 Apr–28 Aug 30 May–31 Aug 24 Jun-23 Aug 18 Jun-30 Aug 28 Jun-10 Aug 1 May-30 Jul 5 Jul-21 Aug

1 Apr–27 Aug 25 Feb–25 Aug

16 Apr-18 Aug

10 Jun-18 Aug

24 Apr-9 Aug

28 Apr–16 Aug

10 May–7 Sep 14 Feb–12 Dec

8 May-16 Sep

26 Jun-29 Jul

18 May-15 Sep

20 May-16 Aug 20 Apr-22 Aug

11 May-11 Jul

22 Mar–28 Aug 16 May–31 Aug

19 May-23 Aug

17 May-30 Aug

10 Apr-10 Aug

15 Apr-30 Jul

15 Jun-11 Jul (Continued)

25 Apr-21 Aug

Table 1. Continued.

Species	Early-late dates	Early-late dates	Early-late dates	Early-late dates	Total Range
		On-Nest and			
	Nest-Building	Nest with Eggs	Nest with Young	Fledglings	Breeding
Song Sparrow	6 Apr-12 Jul	29 Apr-10 Aug	7 May-10 Aug	12 May–31 Aug	6 Apr–2 Sep
Sora	26 Jun–26 Jun	11 May-4 Jul	12 Jun–12 Jun	9 Jun–1 Sep	11 May-1 Sep
Spotted Sandpiper	5 5	18 May-10 Jul	7 <i>Jun–</i> 22 Åug	14 Jun–6 Aug	18 May-22 Aug
Spruce Grouse		, 5	, 5	21 Jun–14 Aug	21 Jun–14 Aug
Śwainson's Thrush		15 Jun–28 Jul	28 Jun–1 Jul	16 Jun–28 Jul	15 Jun-28 Jul
Swamp Sparrow	15 Jun–11 Jul	21 May–19 Jul	10 Jun–30 Jun	11 Jun–7 Šep	21 May–7 Šep
Tree Swallow	3 Apr–1 Jul	16 Apr–4 Aug	11 May–20 Aug	15 May–9 Aug	3 Apr–20 Aug
Trumpeter Swan	26 Jun–26 Jun	10 May–25 Jun	31 May-20 Jul	2 Jun–19 Aug	10 May-19 Aug
Tufted Titmouse	4 May-4 May	16 May–3 Jul	26 May-13 Jul	1 Jun–10 Aug	4 May-10 Aug
Turkey Vulture		20 May–20 Jun	25 May-24 Aug	9 Jun–17 Aug	20 May-24 Aug
Upland Sandpiper		5 May–8 Jul	29 May–25 Jul	15 Jun–11 Aug	5 May–11 Aug
Veery		24 May–20 Jul	1 Jun–15 Jul	16 Jun–14 Aug	24 May–15 Aug
Vesper Sparrow	24 May–14 Jun	29 Apr-14 Jul	2 Jun–22 Jul	26 May–27 Aug	29 Apr-27 Aug
Virginia Rail	8 May-18 Jul	5 Jun–27 Jul	6 Jun–28 Aug	8 May–28 Aug	
Warbling Vireo	16 May–30 Jun	14 May–4 Aug	5 Jun–21 Jul	17 Jun–23 Aug	14 May–23 Aug
Western Grebe		22 Jun–22 Jun			22 Jul–22 Jul
Western Kingbird		<i>11 Jun</i> –10 Jul	3 Jul–17 Jul		11 Jun–17 Jul
Western Meadowlark	1 May–1 May	28 Apr–16 Jul	16 Jun–19 Jun	21 Jun–1 Aug	28 Apr–5 Aug
Whip-poor-will		7 May– <i>19</i> Jul	21 Jun–21 Jun	4 Jun–13 Jun	7 May–19 Jul
White-breasted Nuthatch	27 Mar–4 Jun	10 Apr–3 Aug	7 May–11 Jul	21 May–24 Aug	27 Mar–24 Aug
White-throated Sparrow	20 May-30 May	<i>5</i> May–19 Jul	3 Jun–22 Jul	1 Jun–13 Aug	5 May–13 Aug
White-winged Crossbill		15 Mar–26 Apr		13 Apr–24 Jun	15 Mar–25 Jun
Wild Turkey		7 Apr–25 Aug	19 Jun–5 Aug	7 May–28 Sep	7 Apr–28 Sep
Willow Flycatcher	5 Jun–10 Jul	1 Jun–18 Jul	6 Jul–22 Jul	30 Jun–20 Aug	1 Jun–20 Aug
Wilson's Phalarope		19 May–19 Jun		13 Jun–4 Jul	19 May–10 Aug
Wilson's Snipe Wilson's Warbler	16 May–16 May	3 May–19 Jun	1 Jul–1 Jul	5 Jun–24 Jul 27 <i>Jul–27 Jul</i>	3 May–24 Jul 27 Jul–27 Jul

Winter Wren Wood Duck Wood Thrush Worm-eating Warbler	2 Jun–3 Jul 15 Apr–21 Jun 18 May–7 Jul 20 May–20 May	<i>6 Ma</i> y–30 Jun 21 Mar–16 Jul <i>19</i> May–23 Jul	13 Jun–21 Aug 20 May–15 Aug 5 Jun–7 Jul FY -5 Jul*	26 May–7 Sep 6 May–19 Aug 18 Jun–22 Aug 7 Jun–7 Jun	6 May–7 Sep 15 Apr–19 Aug 18 May–22 Aug 20 May–5 Jul
Yellow Rail		23 May–26 Jun		17 Jul–21 Aug	23 May–21 Aug
Yellow Warbler	10 May–13 Jul	19 May–16 Jul	10 Jun–25 Jul	5 Jun–11 Aug	10 May-11 Aug
Yellow-bellied Flycatcher	25 Jun–25 Jun	7 Jun–12 Jul	8 Jul–10 Jul	11 Jul–8 Aug	7 Jun–8 Aug
Yellow-bellied Sapsucker	27 May–6 Jun	4 May–22 Jul	27 May–24 Jul	3 Jun-15 Sep	4 May–15 Sep
Yellow-billed Cuckoo	25 May–23 Jun	18 May–5 Aug	23 Jun–5 Aug	19 Jun–28 Jul	18 May–15 Aug
Yellow-breasted Chat	, 5	<i>9 Jun</i> –13 Jul	5 0	25 Jun–25 Jun	9 Jun–13 Jul
Yellow-crowned Night-Hero	n	13 May–26 Jun	27 Jun–17 Jul	27 Jul–27 Jul	13 May–27 Jul
Yellow-headed Blackbird		14 May-5 Jul	31 May-8 Jul	29 May–24 Jul	14 May-7 Aug
Yellow-rumped Warbler	12 May–22 Jun	25 May–10 Jul	<i>12</i> Jun–10 Jul	18 Jun-12 Aug	12 May-14 Aug
Yellow-throated Vireo	17 May–13 Jun	19 May–16 Jul	15 Jun–30 Jul	7 Jul-10 Aug	17 May-21 Aug
Yellow-throated Warbler	15 May–15 May	7 5	FY -23 Jun–23 Jun	3 0	15 May–23 Jun

*There are 3 records for Feeding Young, but they are all on this date.

Species	NB	NE/ON	FY	NY	FL
Barn Owl	0	1	0	0	2
Black-necked Stilt	0	0	0	0	3
Carolina Wren	0	2	0	0	3
Cattle Egret	0	2	0	2	0
Great Black-backed Gull	0	0	0	1	0
Kentucky Warbler	0	0	8	0	0
King Rail	0	0	0	0	1
LeConte's Sparrow	0	1	5	0	2
Nelson's Sharp-tailed Sparrow	0	0	2	0	0
Philadelphia Vireo	0	0	1	1	0
Snowy Egret	0	1	0	1	0
Spruce Grouse	0	0	0	0	9
White-winged Crossbill	0	2	0	0	3
Wilson's Phalarope (5 DD*)	0	0	2	0	2
Wilson's Warbler (only 1 record from Re	obbins 1991—n	one during A	tlas work		1)
Worm-eating Warbler	0	0 -	3	0	0
Yellow Rail	0	0	0	0	4
Yellow-breasted Chat	0	2	4	0	1
Yellow-crowned Night-Heron 2 CN** dur	ing Atlas; all of	her records f	rom Rob	bins 1991)	
Yellow-throated Warbler	- 1	0	1	0	0

Table 2. Species with fewer than ten records in these confirmed breeding codes during Atlas work or since—1995–2006.

* DD = Distraction Display

** CN = Carrying Nesting materials

tions: Common Raven nest with eggs (Robbins 1991); Gray Jay nest building (Robbins 1991); and Rock Pigeon nest with young (Atlas). At the close of the calendar year, the latest record is for Rock Pigeon fledglings on 12 December (Atlas) and a Barn Owl nest with young on 17 November (Robbins 1991), but American Goldfinch, Mourning Dove, and Northern Cardinal all have observations (Atlas) of young being fed or fledglings in October. It can truthfully be said that birds breed in our state all year long, even without including the courtship period.

However, the number of observations for these very early or late dates is few. As indicated in *The Atlas of the Breeding Birds of Wisconsin* (Cutright et al. 2006, page 13), mid-April to midJuly is by far the busiest season for breeding.

As you look at Table 1, the blank spaces in each column (none in the final summary column) are indications of a lack of data. The column with the most absence of data is nestbuilding. Many of these are for waterfowl, and some actual dates for nestbuilding may be known by WDNR or others who do work on waterfowl. But for many of the other species, we have no observations. Table 2 is a list of 20 species with fewer than 10 records for confirmed breeding during Atlas work. Only one of these, Yellowthroated Warbler, has an observation of nest-building (and that was obtained after Atlas field work ended). In fact, all the columns in Table 2 have numerous zeros. We now have three different records for Black-necked

Species	NB	NE/ON	$\mathbf{F}\mathbf{Y}$	NY	FL
American Bittern	0	6	3	0	8
Black-throated Blue Warbler	0	5	15	8	3
Boreal Chickadee	0	0	8	1	7
Cape May Warbler	1	1	12	2	5
Cerulean Warbler	1	4	22	0	3
Common Moorhen	0	8	0	2	32
Connecticut Warbler	0	4	9	0	1
Dark-eyed Junco	1	1	10	1	16
Henslow's Sparrow	0	1	13	0	13
Lark Sparrow	0	8	11	0	6
Least Bittern	0	20	3	5	13
Louisiana Waterthrush	2	3	16	1	1
Lincoln's Sparrow	0	5	31	0	19
Northern Waterthrush	0	4	38	0	7
Palm Warbler	0	0	15	0	14
Red Crossbill	2	0	13	1	6
Ruby-crowned Kinglet	1	1	8	0	7

Table 3. Some species for which additional confirming breeding records would be informative. The numbers in this table are from the Wisconsin Breeding Bird Atlas records.

Stilts breeding in Wisconsin, all from observing fledged young, but what are the other details about their nesting? Apparently, no one has seen Kentucky Warblers building a nest or found a nest with either eggs or young in Wisconsin. There is only one record for nesting in Wisconsin by Wilson's Warblers —on 26 July 1977, Stan Temple and associates discovered a pair feeding recently fledged young on Devil's Island in Ashland County (Robbins 1991). Is this the only time that species nested here?

Table 2 raises many questions about the breeding patterns for some species in our state. What is the period for nest-building in Wisconsin by each of these species? When do they have nests with eggs or young? You can help fill in the blanks by recording and sending in the dates and locations, along with the species name and breeding code observed. You can send these records online through the Wisconsin Breeding Bird Atlas website: www.uwgb.edu/birds/wbba/ by clicking on the Results tab at the top of the home page, and then on New Data Form, or by mailing hard copy of the records to me at the address given under the title of this article.

One caution, of course, please do NOT disrupt the breeding activities of the birds you report, do NOT cause them to abandon a nest or young due to your behavior, and do NOT lead predators to these birds or their nests by your actions. Better that nesting information go unobtained than that young birds be lost.

Table 3 is a list of 17 additional species for which there are fewer than 60 total records each in these confirmed breeding categories: nestbuilding; on nest or nest with eggs, feeding young, nest with young, or fledglings —and most of the records are for feeding young and fledglings. Those nest-building, nest with eggs, and nest with young columns have little data in them. Collecting breeding information during the Atlas ended with the close of the 2000 breeding season —officially 15 September 2000. Maybe an urge to fill in the missing numbers will give each of you a reason to watch the breeding behavior of the birds you see during the breeding season of Wisconsin's birds —whenever it is.

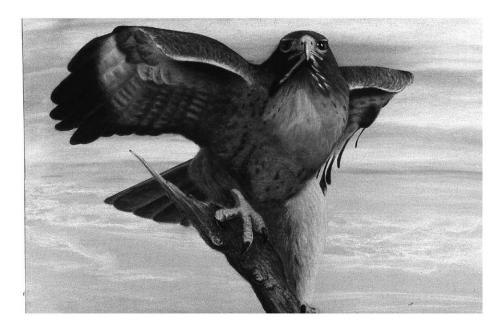
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LITERATURE CITED

- Cutright, N. J., B. R. Harriman, and R. W. Howe. 2006. The Atlas of the Breeding Birds of Wisconsin. Wisconsin Society for Ornithology. Waukesha, Wisconsin.
- Haas, Franklin. 2002. Pennsylvania's "Breeding" Season. Pennsylvania Birds. 16(2): 83–88.
- Robbins, S. D., Jr. 1991. Wisconsin Birdlife: Population and Distribution, Past and Present. University of Wisconsin Press, Madison, Wisconsin.

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"Wind Catcher" by Betsy Popp.

Piping Plovers Breeding in Wisconsin, 1891–2006

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INTRODUCTION

Based on known occurrences, the Piping Plover (*Charadrius melodus*), a state and federal endangered species, has been a rare breeding bird in Wisconsin, with nesting restricted almost completely to Lake Superior during the past 60 years (Matteson 2006a). Habitat loss and human encroachment/disturbance have contributed to the species' endangered status in the Great Lakes region and limited state breeding locations to remote, relatively undisturbed island sites (Matteson and Strand 1987, USFWS 1988, Robbins 1991, Haig 1992, Matteson 1996, Matteson 2006a).

This paper presents all known nesting records and suggestive (potential) breeding occurrences since state naturalists and ornithologists began to keep records in the late nineteenth century. In recent years, Piping Plovers have been reported with increasing frequency in spring, possibly due to an increasing number of observers documenting observations via the internet, but also likely due to an increasing number of migrant Piping Plovers originating from a growing Michigan breeding population. Based on the identification of banded breeding adults, Michigan has provided the source population for most breeding occurrences in Wisconsin since 1998 (E. Roche pers. comm.).

METHODS

We examined all breeding records and evidence for likely breeding from: Kumlien (1891), Kumlien and Hollister (1903), American Birds, Auk, The Passenger Pigeon, Owen Gromme's personal field notes housed at the Milwaukeee Public Museum (MPM), other MPM files, S. Paul Jones' personal field notes housed at the Wisconsin State Historical Society, Richter Museum of Natural History materials at the University of Wisconsin-Green Bay, Wisconsin Society for Ornithology archival materials, Wisconsin Department of Natural Resources (WDNR) files, National Park Service files, and S. Matteson's personal field notes (1974-2006). We compiled all known and suggestive breeding occurrences in Table 1. We considered observation dates later than 21 May, with two or more birds in an area where Piping Plovers had nested in a previous year-or earlier if observers thought that breeding may have occurred-as suggestive of breeding.

We studied historic and recent accounts, field notes, and papers (published and unpublished) to determine breeding habitat parameters, including distances to water's edge and dune edge (metric tape and ocular estimates used for Ashland County nests 1998-2006), and to present breeding habitat characteristics of Wisconsin breeding Piping Plovers.

RESULTS AND DISCUSSION

The first suggestion of breeding in the state came from Kumlien (1891), who reported that he shot Piping Plover young at Lake Koshkonong in Jefferson County. No evidence for nesting was at hand, but Kumlien and Hollister (1903) stated that Piping Plovers "formerly bred sparingly about Lake Koshkonong and near Sheboygan on the lake shore. At the present time the bird is too rare to get any definite information regarding its occurrence." Parenthetically, Scott (1941) reported that naturalist Thure Kumlien had collected 2 Piping Plovers on and 10May 1874 at Lake 8 Koshkonong and sent them to the United States National Museum (Smithsonian Institution) in Washington D.C.

Russell (1983) estimated that 70-95 pairs likely occupied the Wisconsin Great Lakes' shores historically. Based on suitable nesting habitat, he estimated that in northwestern Wisconsin 10 pairs likely bred in the Long Island-Chequamegon Point area, 2 pairs at Superior and Wisconsin Point, and 8 pairs at scattered Lake Superior river mouth locations, for a total of 20 pairs. In northeastern Wisconsin, he estimated undisturbed shoreline north of Green Bay and south of Marinette likely supported 25 pairs. And in southeastern Wisconsin, between Kenosha and Kohler Andrae State Park (formerly Terry Andrae State Park), he guesstimated 25-50 pairs.

Systematic statewide plover population surveys did not occur until the

Dat	te	Location	No. Pairs	No. Eggs/No. Br. Yng Observed	Observer(s)	Source	Comments
1.	ca. 1891	Lake Koshkonong, Jefferson Co., T04N R13E; T05N R12E, R13E	1?	_	L. Kumlien	Kumlien 1891; Kumlien and Hollister 1903	"Have shot young in August." "Formerly bred"
2.	1890s?	"Near Sheboygan"	?	_	L. Kumlien?	Kumlien and Hollister 1903	"Formerly bred"
3.	5-28-1923 6-4-1923 6-10-1923 8-25-1923	South of Kenosha, Kenosha Co., Lake MI T01N R23E	3-4	l nest w/4 eggs; l nest w/3 eggs; l nest w/unk. contents.	H.L. Stoddard, C. Jung	Stoddard 1923; MPM files; SPJFN	"About four pair frequented this locality, which seems to be the only remaining breeding spot on the Wisconsin shore of Lake Michigan, south of Green Bay. It is very doubtful whether this little colony will survive much longer [due to] development."—Stoddard 1923
4.	5-18-1924	Chiwaukee, Kenosha Co., Lake MI T01 R23	6?	_	O. Gromme, Lyons	OGFN	"The beach here is very broad and gravelly in places, and typical for piping plover, of which we observed about a dozen. Mr. Lyons said they are nesting now."—Gromme 5/8/1924
5.	6-1-1930	About 5 mi south of Kenosha, Kenosha Co., Lake MI T01N R23E	1–2	1 nest w/4 eggs.	S.P. Jones, J. Curtis, G. Riemer, P. Gale	SPJFN	"Adult sitting, another adult in vicinity, south of Kenosha at 2 nd creek near cement bridge and RR tracks."—Jones, 6/1/1930
	6-8-1930	"	(1)	(1 nest w/4 eggs)	S.P. Jones, F.R. Poe	SPJFN	"Nest located 100 feet from dune bank and about 4 or 5 feet above the level of the lake. About 300 feet north of stream entering lake. Poe made photographs of bird nest. Adult bird seemed frightened at camera shutter. Usually sat on nest facing blind camera."—Jones 6/8/1930
	6-10-1930	6 mi [?] south of Kenosha on Edithton Beach, Kenosha Co., Lake Michigan T01N R23E	(1)	(1 nest w/4 eggs)	O. Gromme	OGFN	"Beach is gravelly but not very broad; back 100 ft from the shore the dunes rise and extend inland for nearly a mile. The area is wild and probably extends for several miles along the shore. Piping plover nest a depression in sand lined with tiny bits of gravel and containing 4 eggs."— Gromme 6/10/1930

Da	te	Location	No. Pairs	No. Eggs/No. Br. Yng Observed	Observer(s)	Source	Comments
6.	6-1-1930	First creek south of Kenosha, Kenosha Co., Lake MI T01N R23E S20 SW½?	1?	_	G. Riemer, P. Gale	SPJFN	Lone adult reported to Jones by Reimer and Gale on $6/1/1930$ "at first creek."
	6-8-1930	"	(1?)	_	S.P. Jones, F.R. Poe	SPJFN	2 adults observed.
7.	6-14-1931	North of Cedar Grove, near Terry Andrae Park, Sheboygan Co., Lake Michigan T14N R23E	2?	3 young	C. Jung	OGFN	Jung observed 5 adults and found 3 newly hatched young.
8.	5-22-1932	South of Kenosha, Kenosha Co., Lake Michigan T01N R23E	2?	_	S.P. Jones?	SPJFN	4 adult birds reported.
9.	5-31-1937	Terry Andrae Park, Sheboygan Co., Lake Michigan T14N R23E	1?	_	S.P. Jones?	SPJFN	2 birds reported.
10.	5-22-1938	South of Kenosha, Kenosha Co., Lake Michigan T01N R23E	1?	_	S.P. Jones?	SPJFN	2 birds reported.
11.	8-6-1940	.7 km east of the Pensaukee River, Oconto Co., T27N R21E S12	1	_	C. Richter	Barger 1940; T. Erdman (pers. comm.)	C. Richter collected two 1-2 day-old chicks at river mouth. Pair nested on a "saw dust" island made from saw mill deposition.—T. Erdman.

12.	7-10-1942	Lilly Bay, Door Co., Lake Michigan T27N R27E S6?	1	1 nest w/4 eggs.	F.R. Zimmerman	Wright 1942; MPM Files	"Crows destroy nest on [July] 14 th ." —Wright 1942
13.	8-15-1948	Lilly Bay?, Door Co., Lake Michigan T27N R27E S6?	1	_	F.R. Zimmerman	Robbins 1949	"A nesting record is indicated by the observation of adult and small young birds." —Robbins 1949
14.	Summer 1957	Barker's Island, Allouez Bay, Douglas Co., Lake Superior T49N R13W S19 NW%	1	_	Duluth Bird Club	Lound and Lound 1957; WSOFS #572519	Nest found.
15.	5-24-1959	Long Island, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20	2?	_	D. Bratley	Bratley 1959	5 birds observed.
16.	6-21-1963	Barker's Island, Superior, Douglas Co., Lake Superior T49N R13W S19 NW%	1	1 nest w/4 eggs.	D. Meyer	Roberts and Roberts 1964; WDNR files; WSOFS#632520	
17.	6-3-1964 through 6-15-1964	"	1	-	R.F. Bernard; S.D. Robbins	Roberts and Roberts 1965; Soulen 1965; WDNR files; WSOFS#642542, WSOFS#642547	Several birds recorded in Douglas County.
18.	6-7-1965	"	1	_	R.F. Bernard,	Roberts and Roberts 1966	"Found at Barker's Island, Superior"
19.	5-14 through 5-25-1966; 6-3-1966	"	1–2?		R.F. Bernard, others	Soulen 1967; Roberts and Roberts 1967; WSOFS#662560	"As many as 5 birds (noted) at peak periods." —Soulen 1967 (Continued

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Dat	e	Location	No. Pairs	No. Eggs/No. Br. Yng Observed	Observer(s)	Source	Comments
20.	7-3-1967	"	1		R.F. Bernard	Roberts and Roberts 1968; WSOFS#672565	Nesting pair found.
	7-31-1967	"		4 young	R.F. Bernard	"	4 young and 1 adult observed.
	8-8-1967	"		(3 young)	S.D. Robbins	Roberts and Roberts 1968; WSOFS#672551	3 young present.
21.	5-11-1968 5-28-1968 6-4-1968 "	"	1?	_	R.F. Bernard, others	Chipman 1969; Roberts and Roberts 1969; WDNR files; WSOFS#682535	2 birds observed.
22.	6-11-1969	"	1?	_	S.D. Robbins	Roberts and Roberts 1970, 1971, 1972; WDNR files; WSOFS#692532	2 birds observed; "fourth consecutive year" , —Roberts and Roberts 1970
23.	5-25-1970	"	?	_	B. Klugow	Chipman 1971	
	6-10, 11, 29-1970	"	1?	_	S.D. Robbins	Roberts and Roberts 1971, 1972; WDNR files; WSOFS#702510	"Found at Barker's Island, Superior where it is found every year."—Roberts and Roberts 1971
24.	6-15-71	"	1?	-	S.D. Robbins	Roberts and Roberts 1972; WSOFS#710293	"Found at Barker's Island at Superior where it has been observed each year for at least the past 6 years. One bird was found on June 15 by Sam Robbins who wonders how long the bird will persist with the extensive motorcycling in the area."

25.	6-20&21- 1974	NE Chequamegon Point, Cheq. Bay, Ashland Co., Lake Superior T49N R03W S20 SE¼	1	-	S. Matteson, J. Harris	Harris and Matteson 1975b	"2 [adults] on the north end of Chequamegon Point, separated from Long Island by a narrow channel of water."
26.	6-20&21- 1974	SE Long Island, Cheq. Bay, Ashland Co., Lake Superior T49N R03W S20 NE¼	1	_	S. Matteson, J. Harris	Harris and Matteson 1975b	"2 [adults] together on the sandy south end of Long Island"
	7-22-1974	"	(1)	_	S. Matteson	Harris and Matteson 1975b	"Broken wing" display observed near empty scrape on Long Island.
27.	6-11-1977 6-21-1977	Wisconsin Point, Allouez Bay, Douglas Co., Lake Superior T49N R13W S28 NW4	1	1 nest w/4 eggs on 6-11; 4 young observed on 6-21.	G. Niemi	Roberts and Roberts 1978; Niemi and Davis 1979; WDNR files	Nest scrape in an area disturbed by sand excavation. Motorized traffic occurred throughout incubation, with tire tracks near nest. Despite disturbance, by 21 June 4 young had hatched out.
28.	6-11-1977	Superior Sewage Treatment Plant, Superior, Lake Superior T49 R14W S13 N½SW¼	1?	_	C. and R. Faanes	Roberts and Roberts 1978; WSOFS#772546	One pair on territory, probably nested. Male was "piping."
29.	6-20-1977	So. Long Island/NE Chequamegon Point (LICP), Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20	1?	_	F. Strand, R. Hine	WDNR files	3 adults observed; nest may have been present.
30.	6-10-1978 6-11-1978	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20 SE¼ and NE¼	1–2	l nest w/4 eggs on 6-11.	S. Matteson, E.C. Matteson	Matteson 1978; SWMFN; WDNR files	Pair—but no nest—observed on Chequamegon Point on 6-10. Second pair observed and nest found on Long Island (NE1/4), 45 m from water's edge in area visited by people. Area one long peninsula since 1977, with Long Island and Cheq. Pt. joined. (Continued)

Dat	e	Location	No. Pairs	No. Eggs/No. Br. Yng Observed	Observer(s)	Source	Comments
	5-31-1979 6-1-1979	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20 NE ^{//}	1	1 nest w/ 4 eggs.	S. Matteson, M. Bodden	Matteson 1979, SWMFN	Nest found on Long Island on 31 May about 25 m from water's edge in area visited by recreationists. Nest failure 1 June attributed to human disturbance. 3 adults together about 150 m from nest site.
	7-7&8- 1979	"	Re-nest	4 eggs in re-nesting attempt.	S. Matteson, K. Bro	n	Re-nest discovered on 7-7. Party of 21 (from 2 boats) walked through nesting territory. On 7-8 two crushed eggs observed. Lone adult sitting about 3 m E of nest scrape.
32.	5-31-1979 6-1-1979	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20 SE¼	1	l nest w/4 eggs.	S. Matteson, M. Bodden	Matteson 1979, SWMFN	Nest found 31 May on NE Chequamegon Point.
	7-7-1979	n		4 young	S. Matteson, K. Bro	"	4 young about 2 weeks old. White, single-engine airplane lands about 20 m from nest scrape. Matteson moves toward airplane to make inquiry, airplane quickly departs.
33.	6-1-1979	No. Long Is., Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S18 NW4	1	_	R. Everhart	Matteson 1979; WDNR files; R. Everhart (<i>in litt.</i> to J. Hale)	Everhart reported a nest. He believed eggs may have been lost to Ring-billed Gull predation.
34.	6-11-1980	LICP, Chequamegon Bay, Ashland Co., Lake Superior	1	1 nest w/4 eggs.	S. Matteson, F. Strand, M. Bodden	Matteson 1980, SWMFN	Same Chequamegon Point nesting territory as that established in 1979.
	7-14-1980	T49N 03W S20 SE¼ ″	(1)	2 young	S. Matteson, K. Riva	"	2 young about 3-4 weeks old observed within 100 m of nest scrape.
35.	6-11-1980	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20 NE%	1?	_	S. Matteson, F. Strand	Matteson 1980, SWMFN	Pair observed SE Long Island, but no nest found.
	7-14-1980	"	(1?)	—	S. Matteson, K. Riva	Matteson 1980, SWMFN	Adult performed distraction display near where pair observed on 6-11.
36.	7-2-1980	Wisconsin Point, Allouez Bay, Douglas Co., Lake Superior T49N R13W S28 NW%	1?	_	R. Johnson	WDNR files	Pair found on sandy point extending south into Allouez Bay; plovers flushed but returned "piping."
37.	5-29-1981	LICP, Chequamegon Bay Bay, Ashland Co., Lake Superior T49N R03W S20 SE¼	1	l nest w/4 eggs.	S. Matteson, M. Bodden, O. Kjosa	Matteson 1981, SWMFN	Same Chequamegon Point nesting territory as in 1979, 1980.
	7-8 &	"			S. Matteson,	Matteson 1981,	No plovers at nest site; dirt bike tracks within 5-6 m of nest scrape. 1 lone adult observed on

Date		Location	No. Pairs	No. Eggs/No. Br. Yng Observed	Observer(s)	Source	Comments
38. 5	5-29-1981	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20 NE¼	1?	_	S. Matteson, M. Bodden, O. Kjosa	Matteson 1981, SWMFN	Pair observed on same Long Island territory as in 1980; adult performed distraction display.
	7-8 & 7-9-1981	"	—	—	S. Matteson, K. Bro	Matteson 1981, SWMFN	No plovers observed on Long Island.
39. 5	5-31-1982	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20 NE¼	1	0 eggs (pre-laying?)	S. Matteson, M. Bodden	Matteson 1982, SWMFN	About 200 m N of Sand Cut on SE Long Island, nest scrape about 55 m from lake water's edge; ad. on scrape in incubating position, but no eggs in nest (likely pre-laying).
40. 5	5-31-1982	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20 NE¼	1?	_	S. Matteson, M. Bodden	Matteson 1982, SWMFN	Pair observed on Long Island about 90 m south of pair noted above, same date. Courtship behaviors observed.
41. 5	5-31-1982	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20 SE%	1	0 (pre-laying?)	S. Matteson, M. Bodden	Matteson 1982, SWMFN	Adult on scrape in Chequamegon Point territory used 1979–81; no eggs found.
(5-30-1982	"	(1)	4 young	S. Matteson	Matteson 1982	Young about 1 week old and presumed to be from Chequamegon Point nest. D. Verch (pers. comm.) observed 1 young in Sand Cut area on 7-22-1982.

42.	6-2-1983	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R02W S20 NE¼	1?	_	S.W. Matteson, F. Strand	SWMFN	2 adults observed together on SE Long Island.
43.	6-2-1983	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20 NE¼	1	l nest w/4 eggs	S. Matteson, F. Strand	SWMFN	Nest scrape lined with white pebbles; located about 35 m W of lake water, 10 m E of dune edge, and about 250 m S of pair noted above.
44.	6-2-1983	LICP, Ashland Co., Chequamegon Bay, Lake Superior T49N R03W S20 SE¼	1?	0 eggs (pre-laying?)	_	"	Pair together in same Chequamegon Point territory used 1979–82; then 1 from this pair in incubating position about 30 m W of lake water. No eggs in scrape. ATV tracks w/in 15 m of scrape. SWM sees ATV in Sand Cut area spooking gulls, terns, and shorebirds. SWM talks with person riding ATV and learns he's a "short- order" cook from Ashland who has come to LICP for first time.
45.	5-31-1984	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20	1?	0 eggs (pre-laying?)	S. Matteson	SWMFN	Observed adult in incubating position; same Chequamegon Point territory used 1979-83. No eggs found. No Piping Plovers observed on Long Island.
	7-5-1984	"		_	S. Matteson, F. Strand	SWMFN	No Piping Plovers observed on Chequamegon Point. One adult observed in flight, SE Long Island. (Continued)

Dat	e	Location	No. Pairs	No. Eggs/No. Br. Yng Observed	Observer(s)	Source	Comments
46.	46. 5-20-1998	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20 and S21			S. Matteson	SWMFN	2 color-banded adults observed in traditional LICP breeding area; birds exhibited pre-nesting behaviors w/1 adult making several dummy scrapes over wide area.
	6-5-1998	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20	1	1 nest w/4 eggs	E. Epstein	Matteson and Manthey 1998	Nest 26 m west of the lake edge and 17 m east of the dune edge in open sand beach.
	6-9-1998	"			NPS, UMN, WDMR crew	"	Predator exclosure installed over nest.
	7-6-1998	"		3 young	NPS, UMN, Bad River, WDNR crew	"	3 chicks <9 d old, banded with color and USFWS bands; chicks weighed, wing chord measured.
	7-23-1998	"		(3 young)	G. Smith	"	All 3 chicks observed alive.
47.	6-2-1999	Northern Long Is., Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S18 NW4	1?	_	S. Matteson	Matteson and Manthey 1999	Pair observed on sand beach, one adult banded—from Waugoshance Point, Wilderness State Park on Lake MI. Scrapes in sand but no nest.
48.	6-2-1999 6-9-1999	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20	1	1 nest w/4 eggs	S. Matteson	Matteson and Manthey 1999	Pair in traditional LICP breeding area; clutch initiated on 6-3 and completed on 6-9. Nest 35 m from lake edge and 30 m from dune edge. Due to low water levels and relatively dry summers, area now has extensive, broad beaches, reaching 75 m wide in some places.
	6-10-1999	"			NPS crew	"	Predator exclosure installed over nest. 2 young hatched out in early July, but these apparently were killed by a mammalian predator.

49. 6-2-	2-1999	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20	1?	_	S. Matteson	Matteson and Manthey 1999	Pair observed foraging along shore about 100 m from nesting pair. One of these birds was banded—also apparently from Waugoshance Point, Wilderness State Park. These birds were not observed again on a later date.
50. 5-16 200		LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20		_	J. Van Stappen	Matteson and Manthey 2001	J. Van Stappen observed 2 birds in the traditional LICP breeding area.
6-5-	5-2001	"	1	1 nest w/4 eggs	S. Matteson, H. Quint	"	Nest in traditional LICP breeding area, 56 m from lake edge and 14 m from dune edge.
6-6-	5-2001	"			NPS crew	"	Predator exclosure installed.
7-9-	9-2001	"		3 young	Jeff Soltesz, J. Van Stappen	"	
7-11	1-2001	"		(3 young)	NPS, UMN, WDNR crew	"	3 young captured, banded, with color bands and FWS bands; chicks weighed, wing chord measured.
51. 6-1	1-2001	Seagull Bar, Green Bay, Marinette Co., Lake Michigan T30N R24E S15 W%SW%NW%			R. Hoffman	Matteson and Manthey 2001	2 adults observed at east end of Seagull Bar; single adult observed in same location 2 days later
6-20	20-2001	"	1	1 nest w/4 eggs	S. Matteson, J. Huff	"	Nest located away from shore on a sand ridge adjacent to cattail marsh. Nest about 150 m west of eastern lake edge and about 275 m NW of SE tip of Seagull Bar
6-25	25-2001	"			J. Huff, J. Stucker, others	"	Predator exclosure installed over nest.
7-2-	2-2001	"			J. Huff	"	All 4 eggs found with puncture wounds, scattered at varying distances from nest. Eggs determined to be near hatching when predated by unknown predator.

Dat	e	Location	No. Pairs	No. Eggs/No. Br. Yng Observed	Observer(s)	Source	Comments
52.	2. 6-5-2002	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20	1–2 ?	_	S. Matteson	Matteson 2002	2 pairs about 1 km apart in traditional LICP breeding area. Observed dummy scrapes but no eggs. One pair banded— from Wilderness State Park.
	6-12-2002	"	1	1 nest w/ 4 eggs	S. Matteson, J. Kroll	"	Banded pair nested 60 m from lake edge and 20 m from dune edge. No sign of second pair.
	6-18-2002	"			NPS crew	"	Predator exclosure installed.
	7-2-2002	"			J. Van Stappen	"	Exclosure checked and no eggs present. No young observed. Failure of nest unexplained.
53.	6-9-2003 6-17&18- 2003 7-1-2003	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20	;	_	S. Matteson, J. Van Stappen, J. Kroll, J. Trick	Matteson 2003	Pair observed in traditional LICP breeding area; territorial/courtship behaviors observed, but no behaviors indicating nest present on any of the dates. No plovers observed on 1 July.
54.	6-3-2004 6-8-2004 6-16-2004 7-8-2004	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20	?	_	S. Matteson, K. Kindt, J. Van Stappen	Matteson 2004	Pair observed in traditional LICP breeding area; territorial/courtship behaviors observed, but no behaviors indicating nest present on any of the dates. No plovers observed on 8 July.
55.	6-7-2005	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20	1	l nest w/4 eggs	S. Matteson	Matteson 2005	Pair observed in traditional LICP breeding area, but further south than most recorded nests. Nest scrape in open sand about 30 m from lake edge, 25 m from dune edge, and 5 m from driftwood. Both birds banded, MI-origin (female—Point aux Chenes, male—likely Vermilion).
	6-10-2005	"			NPS crew	"	Predator exclosure installed but apparently attracted vistors/disturbance.
	7-12-2005	"		1 young	S. Matteson, T. Gostomski, R. Wilmer	"	1 adult with 1 chick located about 1 km south of exclosure. Matteson and Gostomski banded, weighed, and measured chick.

56.	6-8-2006 6-29-2006	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20	1	1 nest w/4 eggs 3 young	S. Matteson, W. Steffens	Matteson 2006b, Steffens 2006	Nest 55 m from lake edge, 0 m from dune edge; northernmost of 3 nests with eggs. Origin of adult female: Vermilion, MI.
	7-11-2006	"		(3 young)	NPS, Bad River, WDNR crew	"	3 chicks banded with color bands and FWS bands, weighed, measured.
57.	6-8-2006 6-29-2006	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20	1	1 nest w/4 eggs 1 young	S. Matteson, W. Steffens	Matteson 2006b, Steffens 2006	800 m south of first nest on same date; nest 60 m from lake edge and 10 m from dune edge. Origin of adult female: Cross Village, MI, near Wilderness State Park. 3 chicks observed for first time on 6-29-2006.
	7-11-2006	"		(1 young)	NPS, Bad River, WDNR crew	"	l chick banded with color bands and FWS band, weighed, measured.
58.	6-8-2006	LICP, Chequamegon Bay, Ashland Co., Lake Superior T49N R03W S20	1	l nest w/4 eggs	S. Matteson, W. Steffens	Matteson 2006b, Steffens 2006	250 m south of second nest on same date; nest 50 m from lake edge and 25 m from dune edge. Origin of banded male: Beaver Island, MI, directly west of Cross Village. This nest and "second" nest noted above—southernmost nests ever recorded for LICP.
	7-11-2006	"		1 young	NPS, Bad River, WDNR crew	"	1 chick banded with color bands and FWS band, weighed, measured.
59.	6-30-2006 7-10&12- 2006	Outer Island Sandspit, Ashland Co., Lake Superior T52N R01W S03 SE%	1	1 nest w/3 eggs	W. Steffens, J. Van Stappen	Matteson 2006b, Steffens 2006, SWMFN	Nest only about 10 m from lake edge and 0 m from dune edge. Vandalism evident: plover sign hurled 5 m off shore into neck-deep water. The nest failed and human disturbance may have played a role.

Key: (1) or (# young) or (nest w/4 eggs) indicates that pair, young, or nest were the same as that recorded on earlier date. Bad River = Bad River Band of Lake Superior Tribe of Chippewa Indians.
NPS = National Park Service; OGFN = Owen Gromme Field Notes; SPJFN = S. Paul Jones Field Notes
SWMFN = Sumner W. Matteson Field Notes; UMN = University of Minnesota
WDND Files - Wiscensing Department of Nature Resources files at Endengened Resources Medicen

WDNR files = Wisconsin Department of Natural Resources files at Bureau of Endangered Resources, Madison

WSOFS = Wisconsin Society for Ornithology Field Sheet computer printouts (annotated) in files at Bureau of Endangered Resources, Madison.

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Figure 1. Breeding occurrences of Piping Plovers in Wisconsin, 1891–2006. ? = unknown location or uncertain date.

mid-1970s, but Wisconsin has a long tradition of very active and observant naturalists and birders contributing to most of what we know about the distribution and occurrence of Wisconsin birds since the late nineteenth century.

We divided known breeding occurrences (Fig. 1) into three periods: 1) 1923–1948, covering Lake Michigan records from Kenosha, Sheboygan, Door, and Oconto counties; 2) 1957–1984, covering Lake Superior records from Ashland and Douglas counties; and 3) the most recent records from Lakes Superior and Michigan during 1998–2006, with Ashland and Marinette counties represented (Table 1).

1923-1948

Kenosha County

The first recorded Piping Plover nest in Wisconsin was observed in 1923 by naturalists Herbert Stoddard

and Clarence Jung south of Kenosha in an undisturbed beach/dune complex (Matteson 1996). Stoddard (1923) observed 3 different nests on two separate visits: ". . . on a certain stretch of beach, a short distance south of Kenosha, Clarence Jung and the writer made a special trip to investigate on May 28th of this year. After considerable search each found a nest. and another was located by the writer on June 4th." (Naturalist S. P. Jonesunpubl. data—likely viewed one of these nests on 10 June 1923.). Stoddard believed a fourth breeding pair was also present, but he lamented the future of these birds here "which seems to be the only remaining breeding spot on the Wisconsin shore of Lake Michigan, south of Green Bay. It is very doubtful whether this little colony will survive much longer, as the whole district is ripe for development, which indeed has already commenced."

What Stoddard was referring to was the plan of Mrs. Edith Rockefeller Mc-Cormick to turn almost all of the shoreline (1800 acres) and a mile inland into a new, model city; the "gold coast development" became known as Edithton Beach. At the same time, a large subdivision and golf course were planned by Chicago businessmen for the area south of Edithton Beach. Luxury homes were built on high dunes and protective barriers of concrete and stone erected along the shore. The ventures failed when the Depression hit in 1929, but a new group of developers purchased the Edithton Beach properties in 1947, and the area was re-named Carol Beach Estates (Sander 1995).

Sander (1969) described the dunes adjacent to the beaches where Stod-

dard and Jung likely found the plover nests in 1923: "At the south edge of Kenosha's Southport Park, paralleling the west shoreline of Lake Michigan, lies a unique area of sand dunes which is generally overlooked by most people in this area and unknown to the majority of people in Wisconsin. These dunes, extending south from 80th Street to 86th Street and between 7th Avenue and Lake Michigan (T1N, R23E, Sec. 8) present an undulating topography with a variety of animal life and vegetation." Sander (1995) also fondly recalled the area south of Kenosha from boyhood ramblings: "Often . . . with my pals . . . we started at 75th Street, walking south to Butcher's Beach (Southport Park) where we swam. Afterward, we would hike to Van Igen's Woods, Barnes Creek (Carol Beach) and Weyhe Prairie (Chiwaukee Prairie), ending at the Wisconsin-Illinois state line. In those halcyon days there were no roads or homes along the five mile stretch of the shore south of Kenosha. We had free access to the beach, woods and prairies from 116th Street to the Wisconsin-Illinois state line, and east from the Chicago Northwestern Railroad tracks to the shore of Lake Michigan."

Further on down the shore from where Stoddard observed the first Piping Plover nests, and closer to the state line, another discovery of breeding plovers occurred. On 1 June 1930, S. P. Jones, together with University of Wisconsin botanist John Curtis and two others, walked south "nearly to [the] Chiwaukee Country Club," about 5 miles from Kenosha. In his field notes, Jones wrote: "Nest found with 4 eggs and adult sitting. Another adult in near vicinity. Nest located on gravelly



Figure 2. Nesting Piping Plover on Lake Michigan shore, 5–6 miles south of Kenosha, Kenosha Co., Wisconsin. Photo by Owen Gromme, 10 June 1930. Photo courtesy of the Milwaukee Public Museum.

beach near second creek running into Lake Michigan. About 5 miles south of 75th Street, Kenosha. Opposite cement bridge and R.R. bridge. Nest composed of hollowed place in sand lined with about one layer of small light colored gravel. Adult bird came within 8 feet while we were examining nest and feigned injury. Another bird reported by Riemer and Gale at first creek." Gromme (unpubl. data, MPM files) likely photographed the same nesting Piping Plover pair at Edithton beach (Carol Beach) on 10 June 1930 (Fig. 2), though he believed the nest site was 6 miles south of Kenosha. He noted that the nest of 4 eggs was lined with bits of gravel.

Nesting may have possibly continued in the area until 1938, with 4 birds and a pair observed, respectively, during the third week of May in1932 and 1938. No nest, however, was reported in these years leaving 1930 as the final year when known breeding occurred in Kenosha County (Robbins 1991).

Sheboygan County

Other than Kumlien and Hollister's (1903) statement that Piping Plovers historically bred near Sheboygan, there is only one confirmed county nesting record (1931) and one suggestive breeding occurrence (1937)both at or near Kohler-Andrae State Park (formerly Terry Andrae State Park). Gromme (unpubl. data) described the only breeding in his field notes from 1931: "Clarence Jung informs me that up near the Terry Andrae Park north of Cedar Grove he saw five adult PP on the beach and found one group of young which had evidently just been hatched. 3 young, 24 hours old."

The lone suggestive breeding occurrence was recorded by S. P. Jones in his personal field notes: "5-31-37. Two seen at Terry Andrae Park on Lake Mich. S. of Sheboygan." Again, no confirmed nesting here, but the date and sighting of a pair suggests the possibility of breeding.

Oconto County

There is only one confirmed breeding record and naturalist Carl Richter was responsible for it. Barger (1940) reported the following: "A bird often looked for, but seldom found, nested in Richter's territory. It was the Piping Plover, which, on Aug. 6, brought forth a newly hatched brood. The tiny little fellows already were able to stretch out on the sand when pursued or overtaken." From WDNR files and materials from the Richter Museum of Natural History, we know that the plovers nested on a small island at the Pensaukee River mouth.

Door County

There are two breeding records, one for Lilly Bay along the eastern shore, and the other for an unknown location, likely also Lilly Bay. Wright (1942) reported that F. R. Zimmerman "sent in the following notes made while vacationing in Door County . . . Piping Plover, nest with four eggs, Lilly Bay, July 10; crows, destroying eggs on 14th." The second record was also reported by Zimmerman and noted by Robbins (1949): "A nesting record of the piping plover is indicated by the observation of adults and small young birds in Door County, Aug. 15 (Zimmerman). This species is rarely reported in the state; but the fact that Zimmerman found a nest in Door County in 1942, and the fact that the species nests regularly near Duluth, Minnesota, suggest the possibility that the piping plover may be a regular breeder in certain parts of Wisconsin."

At the time of the 1948 record, Piping Plover nesting in northwestern Wisconsin along the Wisconsin shore of Lake Superior was unknown, but it is possible that the species—though rare—went undiscovered there for decades due to relatively few nest searches in appropriate breeding habitat, and due to the interest of far fewer observers. The following decade would see the first breeding records for Wisconsin's Lake Superior shore, but breeding would not occur again along the Wisconsin shore of Lake Michigan for over 50 years.

1957-1984

Douglas County

Roberts (1936) mentioned a probable Piping Plover sighting "near Duluth" on 7 July 1923 reported by Philip Dumont of the American Museum of Natural History. The first recorded nesting in the Duluth-Superior Harbor occurred on Minnesota Point in 1936 (Lakela 1940), and across the harbor in Superior, Wisconsin, breeding Piping Plovers first occurred at Barker's Island in 1957 (Lound and Lound 1957), though it is quite likely breeding birds went undetected in earlier years within the harbor area (Niemi and Davis 1979). One to two nesting pairs occurred on Barker's Island intermittently through 1971 (Robbins 1991), until development and disturbance by off-road vehicles ended all nesting attempts (Robbins 1991, WDNR files).

Breeding Piping Plovers did not occur again in Douglas County until 1977. Plovers nested in the Duluth-Superior Harbor in association with Common Terns (*Sterna hirundo*) at the Duluth Port Authority terminal in 1974 (Harris and Matteson 1975a) and may have been present at Minnesota harbor sites during 1974–1976, except no one was searching until a comprehensive

survey of the harbor occurred in 1977, when Niemi and Davis (1979) documented 7 breeding pairs, including the lone known Wisconsin nest at Wisconsin Point. They provided the only description of the plover nest: "The Piping Plover nest at Wisconsin Point was found in an area disturbed by sand excavation just prior to the arrival of the plovers in late April. The excavation left open an open, unvegetated site approximately 2 ha in size. This location received extensive use by motorized traffic throughout the incubation period, and we observed tire tracks within centimeters of the nest." Despite this disturbance, 4 chicks had hatched out by 21 June (WDNR files, Roberts and Roberts 1978).

Also, on 11 June 1977, a Piping Plover pair was present at the Superior Sewage Treatment Plant (Roberts and Roberts 1978) in Superior and may have bred, though no nest was documented. There have been no confirmed breeding Piping Plover occurrences in Douglas County since 1977, although naturalist and birder Robbeye Johnson observed a pair in 1980 near the same Wisconsin Point sand pit where birds nested in 1977 (WDNR files). Here, on 2 July 1980, the "plovers flushed but flew only a short distance, returned 'piping,' and were remove." luctent to This is а suggestive-but not confirmedbreeding record.

After 1977, the number of Piping Plover nesting pairs in the Duluth-Superior Harbor declined steadily until they became absent as breeding birds in 1986 (Davis 1986, 1987).

Ashland County

David Bratley, longtime bird observer from the Chequamegon Bay

area, observed 5 Piping Plovers at Long Island on 24 May 1959 (Bratley 1959). At the time, Long Island was still a true island, separated from Chequamegon Point by a channel of water. Bratley did not observe any breeding activity, but the presence of these birds in late May in an area where they are now known to breed regularly suggests that nesting could have occurred there soon after his visit. Bratley intimated as much and more in correspondence (19 December 1977) with former WDNR biologist and editor Ruth Hine: "My visits and observations of the island began in the early 1950s and have continued to the present [1977]. During May, late July, and throughout August shorebirds congregate on the east end of Long Island and on the adjacent point, which I term Sandcut Point. This point is part of the mainland . . . As a result of last year's drought and low water levels, this point joined with Long Island this past year and connected the island to the mainland . . . During June and July, I have always observed Piping Plovers in both areas, Long Island and Sandcut Point, and have always suspected they have bred here."

Given suitable breeding habitat conditions (open, expansive, undisturbed beaches), could Piping Plovers have nested in the Long Island/Chequamegon Point area prior to 1959 and between 1959 and 1974, when Harris and Matteson (1975b) observed in the same general area 2 pairs and documented breeding behavior for the first time? It certainly seems highly probable given Bratley's observations and statement above.

It is important to note that Long Island, or rather the Long Island/

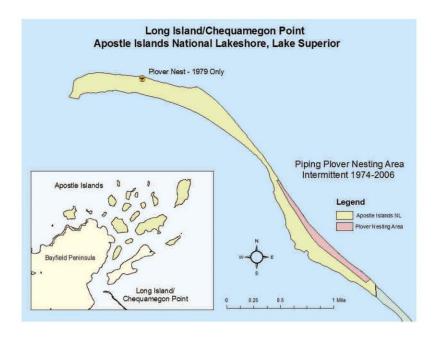


Figure 3. The general breeding area of the Piping Plover on Long Island/Chequamegan Point, 1974–2006. Map prepared by Peggy Burkman.

Chequamegon Point peninsula (Fig. 3), is a sand barrier spit consisting of a series of dune ridges and swales perched on a bedrock platform at the mouth of Chequamegon Bay, and is continually shaped by sediment transported by longshore currents and deposited by waves (McEachern 1991). We have observed gross physical changes to the area's sandscapes over the past 30 years that indicate that the beach-dune complex is dynamically responsive to vegetative succession, storm surge, changing water levels, and weather patterns. Accordingly, locations of Piping Plover nests-if present earlier in time-likely shifted in response to the presence of available/ suitable habitat.

From 1974 through 1983, Piping Plovers likely nested each year in the Long Island/Chequamegon Point area, with nests documented on open sand-and-gravel beaches in 1974 and during 1978-1983, and a pair but no nest noted during the 1984 breeding season (Matteson 2006). When Harris and Matteson (1975b) visited the area in 1974, Long Island was still an island, though only shallow water separated it from Chequamegon Point. Lower lake levels and dry weather, as noted by Bratley, closed the gap in 1976–77. Long Island/Chequamegon Point has been one long peninsula ever since (Matteson and Strand 1987).

In 1979, a pair of Piping Plovers also nested on a sand beach at the northern end of Long Island, but the nest was not successful (R. Everhart pers. comm.) and plovers have not nested here since, though we have observed plovers intermittently, as well as "dummy" nest scrapes (see below).

For reasons that remain unclear, no Piping Plovers nested on Long Island/Chequamegon Point between 1983 and 1998, a period that also saw Piping Plovers disappear as breeding birds from the Duluth-Superior Harbor. Great Lakes' Piping Plover populations reached an all-time low by 1986, when the species was listed as federally endangered in the Great Lakes. There were only 17 pairs in the region-and all of these were in the state of Michigan (USFWS 1988). But the Great Lakes population was to plummet even further-to only 11 breeding pairs in 1990 (Powell and Cuthbert 1992).

1998-2006

Ashland County

After a 15-year absence as a breeding bird, Piping Plovers returned to the Long Island/Chequamegon Point area. A nest scrape with 4 eggs—about 26 m west of the lake edge and 17 m east of the dune edge-occurred in the traditional open, sand beach breeding area on 5 June 1998. Following installation of a welded wire exclosure $(2 \times 4 \text{ inch mesh})$ around the nest, and the posting of no entry signs within a quarter mile of the nest, the pair successfully produced 3 young (Matteson and Manthey 1998). These birds—less than 9 days old—were banded on 6 July with a unique color band combination and U.S. Fish and Wildlife Service metal bands following protocols established by the University of Minnesota's Great Lakes Waterbird Research Program (www.waterbirds. umn.edu/Piping_Plovers). The successful breeding pair (both adults banded) came from Michigan-Wilderness State Park at the very northwestern tip of the upper Lower Peninsula and likely Vermilion, 10 miles west of Whitefish Point in the eastern Upper Peninsula (J. Stucker and E. Roche pers. comm.).

We observed another two pairs in 1998—one on Chequamegon Point that did not nest, and one at the northern end of Long Island that made several scrapes but produced no clutch.

Why the sudden return of plovers to the area? Most likely, Wisconsin benefited (and continues to benefit) from a fairly dramatic upturn in Michigan's breeding population and production during the late 1990s through 2002, when Michigan's Piping Plovers doubled to 50 nesting pairs, including a nearly 60% increase between 2001 and 2002 (Stucker 2002). During the period 1995–2005, over 600 young were produced by Michigan's breeding Piping Plovers (F. Cuthbert pers. comm.).

The 1998 breeding pair returned in 1999 and nested about 100 m north of the previous year's nest site, with a clutch of 4 eggs completed on 9 June 1999. The nest was about 35 m from the lake edge and 30 m from the dune edge. A nest exclosure was installed on 10 June. Two young hatched, but these were apparently killed by a mammalian predator during the first week of life. We also observed 2 non-breeding pairs-one within 100 m of the nesting pair, and one at the northern end of Long Island. Both of these pairs each contained a marked and unmarked adult; the color band combinations revealed that both marked adults originated from Wilderness State Park (J. Stucker pers. comm.).

For unknown reasons, no Piping Plovers occurred anywhere on Long Island and Chequamegon Point during June 2000. But in 2001 and 2002, the same '98 female adult returned to southeastern Long Island (with an unbanded male) and nested. On 5 June 2001, we found a nest with 4 eggs about 60 m from the water's edge and 14 m from the dune edge in the traditional Long Island/Chequamegon Point breeding area. A nest exclosure was installed, signs posted, and the pair fledged 3 young.

On 5 June 2002, after surveying likely breeding habitat at the northern end of Long Island, we observed 2 pairs—one banded (Wilderness State Park) and the other unbanded about 1 km apart on southeast Long Island in and near the Long Island/Chequmegon area traditionally occupied by a breeding pair. Here, we observed the making of dummy scrapes by 1 pair but found no eggs. The same pairs were present at the same sites on 12 June 2002. The marked/unmarked pair nested and produced 4 eggs. On 18 June 2002, National Park Service personnel installed a predator exclosure around the plover nest and posted signs similar to previous years. On 2 July 2002, the exclosure was checked, but there were no eggs present, with no sign of egg shells and no indication that the exclosure had been disturbed. No young were observed anywhere in the area, and the failure of this nest remains a mystery.

In 2003, we surveyed potential breeding habitat at the northern end of Long Island with FWS biologist Joel Trick. We observed no plovers here on 9 June. Visiting the traditional breeding area at Long Island/Chequamegon Point the same day, we observed a pair of Piping Plovers within 100 m of the same site where a pair had nested in 2002. One of the adults was banded on the right leg and was likely the same bird from the 2002 nesting pair. We observed a total of 3 individual Piping Plovers during the survey, but did not see more than two together at one time during the survey. We observed the pair engaged in territorial behavior, but we also observed fresh raccoon, coyote, and fox tracks.

On 17 June 2003, we located the same banded adult observed the prior week, and for 1.5 hrs observed territorial and courtship behaviors involving the banded adult and an unmarked bird. We watched and heard the unbanded plover calling "mournfully" while flying in looping circles in and around the potential breeding territory. At one point the unbanded plover charged the banded adult, with the banded bird assuming a submissive posture. On another occasion, the unbanded plover flew close to the banded bird and both vocalized. We did not observe any copulatory behaviors, however.

On 18 June 2003, AINL staff posted signs warning the public to keep out of the nesting area. The signs were posted along the northern and southern boundaries of the traditional breeding territory where Piping Plovers had been observed the previous day and on 9 June, and signs were also posted along the central lakeside edge of the territory. On 1 July 2003, we returned to the area on Long Island/Chequamegon Point where we had observed the plovers. After 4 hours of walking and watching the lake dune and beach area, and traversing the shoreline along a 2 km stretch that included the bay and lake sides of the peninsula, we ended the search with no plovers observed. There was no sign of predation and no known cause for the disappearance of the plovers.

In 2004, we observed a pair in the traditional breeding area on 3, 8, and 16 June but no nesting occurred. Van Stappen observed a third bird on 16 June but could not determine if it was banded.

In 2005, we documented a Piping Plover nest with 4 eggs on 7 June, a few hundred meters south of most former nest sites within the traditional breeding area, parts of which appeared somewhat diminished as potential breeding habitat by encroaching vegetation. The plover nest scrape was in unvegetated, bare sand about 30 m from the water's edge, 25 m from the dune edge, and about 5 m from driftwood. The banded female originated from a Michigan area called Point aux Chenes (E. Roche pers. comm.) in the lower Upper Peninsula, less than 15 km NNE of Wilderness State Park. The banded male likely originated from Vermilion in the UP. National Park Service staff installed a nest exclosure on 10 June. The exclosure, unfortunately, attracted people, sometimes people with dogs, and even a low-flying airplane (TD pers. obs.). One chick apparently hatched out, and we located this bird with the breeding adult female about 1 km south of the exclosure on 12 July. Matteson and DNR Regional Ecologist Ted Gostomski banded the chick, and within 30 seconds after release the parent bird flew in low for a reunion.

The "best" year for Wisconsin's Piping Plovers since the 1920s occurred in 2006. On 8 June 2006, Matteson (2006b) and biologist Wayne Steffens (2006) found 3 Piping Plover nests on

Long Island/Chequamegon Point, each nest with 4 eggs. The northernmost nest was approximately 800 m from the second nest, which was only about 250 m from the third nest. The origin of the banded female-hatched in 2003-at the north nest (male unbanded) was Vermilion, Michigan. The origin of the banded female from the middle nest was Cross Village, Michigan, with the banded male (Fig. 4) coming from Wilderness State Park. Cross Village is a coastal community located less than 14 km south of Wilderness State Park. The origin of the unbanded female from the south nest is unknown, with the banded male coming from Michigan's Beaver Island, located about 42 km west of Cross Village (E. Roche pers. comm.). What is noteworthy about the origins of the known breeding adults is that they come from four sites (Beaver Island, Cross Village, Point Aux Chenes, and Wilderness State Park) that are relatively close to each other in northeastern Lake Michigan, bordered by the Beaver Island chain on the west and the Mackinac Straits to the east (Fig. 5).

The 2006 Long Island/Chequamegon Point nests were about 55 m, 60 m, and 50 m from the lake edge, respectively, and 0 m, 10 m, and 25 m, respectively, from the dune edge. These nests, as with the 2005 nest, occurred in an area south of the traditional breeding locale. On 13 June 2006, 3 nest exclosures were installed at the nest sites. On 29 June 2006, 3 chicks were observed for the first time although their hatch date is uncertain. The north nest contained 1 egg, with 3 chicks nearby; the middle nest still had all 4 eggs being incubated; and at the



Figure 4. Adult male Piping Plover from middle of 3 nests on Long Island/Chequamegon Point, Lake Superior. Note ORANGE band on left leg above tibiotarsal joint, and on right leg an aluminum band (also above joint) over GREEN band. Photo by Ryan Brady on 7 July 2006.

south nest no eggs and no chicks were observed (G. Miller pers. comm.).

On 11 July 2006, a volunteer party of NPS and DNR staff, and Bad River biologists and wardens, captured 4 of 5 chicks known alive at the Long Island/Chequamegon Point sites. Each of the nests was known to have produced at least 1 chick. We banded each of these chicks following established protocol to identify them as Long Island/Chequamegon Point birds. All 5 chicks are believed to have fledged.

A fourth Piping Plover pair nested in the Apostle Islands in 2006. On 30 June, Steffens and Van Stappen discovered a nest with 3 eggs at the southern end of Outer Island close to the dune edge and only about 10 m from the water's edge (Steffens 2006). Park Service staff posted beach closure signs, but these were later vandalized, and the nest may have failed due to human disturbance.

In total—from 1998 through 2006 we documented 9 active nests and 12 young fledged (1.33 yng/nest) in the Apostle Islands.

Manitowoc County

In 2001, 2 pairs of Piping Plovers nested in Wisconsin, including one at Seagull Bar on Lake Michigan, which represented the first time in over 50 years a pair had nested along the Wisconsin shore of Lake Michigan.

On 11 June 2001, WDNR Natural Areas Specialist Randy Hoffman (pers. comm.) observed a pair of Piping Plover adults at the east end of Seagull Bar. A single adult was later reported

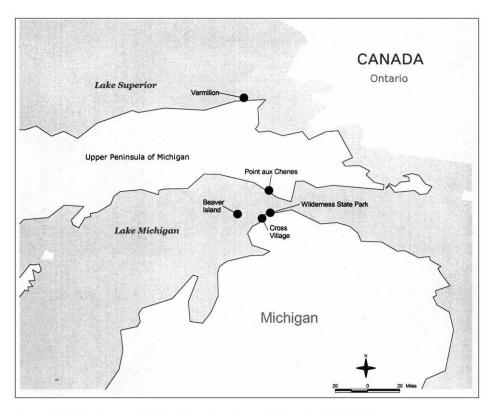


Figure 5. Origin of marked Piping Plovers breeding in Wisconsin, 1998-2006.

on 13 June (J. Smith pers. comm.). On 20 June, WDNR Wildlife Manager John Huff and Matteson found a Piping Plover nest scrape with 4 eggs on a sand ridge adjacent to a cattail marsh. The nest was approximately 150 m west of the eastern lake edge, about 120 m north of the southern lake edge, and about 275 m northwest of the southeast tip of Seagull Bar. On 22 June, Huff installed signs along the outer area of the site restricting access to authorized personnel only. On 25 June, J. Stucker, Huff, and others installed a nest exclosure at the site. On 2 July, all 4 eggs were found scattered at varying distances from the nest with puncture marks. The eggs were salvaged and found to be near hatching when predated (J. Stucker pers. comm.). Despite the nest failure, the presence of plovers here and the planned management of encroaching vegetation by the Bureau of Endangered Resources' Natural Areas Program (M. Martin pers. comm.) offer hope that Piping Plovers will return to the area.

GENERAL BREEDING HABITAT CHARACTERISTICS OF WISCONSIN PIPING PLOVER SITES

By place name, southern Long Island and northeastern Chequamegon Point (Fig. 6) contain the most exten-

sive undisturbed lake beach and dune complex in Wisconsin and have served as the prime and almost exclusive breeding location for Piping Plovers for over three decades and perhaps longer (Matteson 2006a). Several sites at the northern and southern ends of Long Island remain suitable for nesting. The "island" alone could potentially support 10-15 breeding pairs, but the widest beach area (>50 m) at the island's southern end (Fig. 7) adjacent to an area known locally as the "Sand Cut" has proved to be the traditional nesting area, with areas south of this area extending into Chequamegon Point providing equally expansive beach conditions in recent years.

Over an area about 3 km in length, a mix of relatively flat, open, sand and gravel—or cobble/gravel (Fig. 8) beach patches, driftwood debris and logs, foredunes, and sparse vegetation (beach wormwood—Artemesia caudata and beach grass—Ammophila breviligulata) provide optimum nesting habitat in the southern Long Island/northeastern Chequamegon Point area. Behind the beaches and foredunestoward the bayside of the peninsulaand running north to south, stretch extensive undisturbed sand dunes. Abundant invertebrate foods (Chironomidae, Dolichopodidae, Tenebrionidae; Nordstrom 1990) have been available to breeding plovers and their young along the beaches and wash zone—where waves come ashore. Tangentially, a beach obligate and State Special Concern tiger beetle (Cicindela hirticollis rhodensis) was abundant in plover nesting areas in 2006 (Steffens 2006), and Matteson observed on one occasion a Piping Plover adult capturing and consuming a tiger beetle.

Another Long Island/Chequame-

gon Point habitat feature—noted by Powell and Cuthbert (1992) in describing Great Lakes' island Piping Plover breeding habitats—is the emergence in recent years of foredune areas with flat open areas behind the foredunes that contain bare sand and a mix of sand and gravel. As noted by Powell and Cuthbert (1992), the beach width area becomes wider when taking into account the area behind the foredunes. In 2006, 2 of 3 Long Island/Chequamegon Point nests occurred behind or near a foredune.

Based on our analysis of Piping Plover nesting site habitat features at Long Island/Chequamegon Point, 1978–2006, and from the descriptions of naturalists since 1923, we can list the following general breeding habitat characteristics of Wisconsin Piping Plover nesting sites/territories:

- 1. From a landscape level: extensive (1–5 mi, 1.6–8 km) mixed sandgravel beach or sand beach with gravel/cobble patches along Great Lakes' shores;
- Beach widths irregular, often (though not always) 50–75 m where nest occurs;
- 3. No vegetation or solitary forb (typically *Artemisia caudata*) within 1–5 m of nest;
- Driftwood log or stick 1–25 m from nest;
- 5. Active dunes typically within 25–100 m (or less) of nest;
- Relatively undisturbed beach/dune complex with plentiful invertebrate foods; and
- 7. Nest—usually with 4 eggs—typically lined with white pebbles (gravel).

A notable exception to the beach widths given above occurred at the



Figure 6. Sand beach and dunes, Long Island/Chequamegon Point, Lake Superior, Wisconsin. Photo by Sumner Matteson.

southern Outer Island sandspit on 30 June 2006. Steffens (2006) reported the following: "At 11:45 a pair of alarmed piping plovers made its pres-

ence known directly in front of me, and attempted to decoy me down the beach. I followed, and observed from several hundred feet away as they flew



Figure 7. Piping Plover nesting area, with predator exclosure around nest, Long Island/Chequamegon Point, Lake Superior. Photo by Sumner Matteson.



Figure 8. Cobble/gravel sand beach with Piping Plover nest scape and 4 eggs, Long Island/Chequamegon Point, Lake Superior. Photo by Sumner Matteson.



Figure 9. Lauren Wemmer, Great Lakes Piping Plover Research and Recovery Team, University of Minnesota, hand-captures a <9 day-old Piping Plover chick for banding, Long Island/ Chequamegon Point, Lake Superior. Photo by Sumner Matteson.

back to the north. Over the next hour, one bird remained on the water's edge at all times, while the second made repeated forays to the upper edge of the beach where the dune grass begins. It would drop out of sight, and then return to the beach anywhere from several to ten minutes later. Sometimes it could be seen moving about at the edge of the dune grass. It was obviously visiting a nest site or possibly a newly hatched chick. Park biologist Julie Van Stappen arrived and we eventually located a nest with 3 eggs in the vicinity of the bird's activity at the edge of the dune grass . . . The beach here is fairly steep, and only 35-40' wide. There was typical stony-cobble near the nest. Prior to this being discovered it would have been considered marginal habitat, if habitat at all. This illustrates a need to survey even seemingly unsuitable beaches in the future."

FUTURE OBSERVATIONS

If you see a marked (banded) or unmarked Piping Plover, please report your sighting to one or more of the following: National Park Service Ecologist (if observed in the Apostle Islands only) (715-779-3398, Ext. 211); WDNR's Bureau of Endangered Resources (608-266-1571); or to the University of Minnesota's Great Lakes Waterbird Research Program (www. waterbirds.umn.edu), which recommends reporting color band combinations (if present), sighting location, and date. Record color band combinations seen from top to bottom on the left leg and then the right leg. The colors used in banding Piping Plovers in the Great Lakes region: dark blue, light blue, black, dark green, light green, yellow, red, and orange. A silver U.S. Fish and Wildlife Service band is also used. Go to the website above for further information and click on "Piping Plovers."

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LITERATURE CITED

- Barger, 1940. August field notes. Piping plover nesting in Oconto County. Passenger Pigeon 2(9): 108.
- Bratley, D. 1959. "By the wayside"... piping plovers on the beaches of Ashland County. Passenger Pigeon 21(4): 149.
- Chipman, I. 1969. Field notes, spring season, March 1–May 31, 1968. Passenger Pigeon 31(1): 209–221.
- Chipman, I. 1971. Field notes, 1970, spring count. Passenger Pigeon 33(1): 18–32.
- Davis, T. E. 1986. St. Louis River estuary colonial bird program, 1986. Report to Minnesota Department of Natural Resources. St. Paul, Minnesota. 16 pp.
- Davis, T. E. 1987. St. Louis River estuary colonial bird program, 1987. Report to Minnesota Department of Natural Resources. St. Paul, Minnesota. 16 pp.
- Haig, S. M. 1992. Piping Plover (*Charadrius melodus*). *In* The Birds of North America, no. 2 (A. Poole, P. Stettenheim, and F. Gill, eds.).
 Academy of Natural Sciences, Philadelphia, PA, and American Ornithologists' Union, Washington D.C.
- Harris, J. T. and S. W. Matteson. 1975a. Gulls and terns nesting at Duluth. Loon 47: 70–77.

- Harris, J. T. and S. W. Matteson. 1975b. Gulls and terns as indicators of man's impact upon Lake Superior. Technical Report No. 227, University of Wisconsin Sea Grant Program, Madison. 45 pp.
- Kumlien, L. 1891. A list of the birds known to nest within the boundaries of Wisconsin, with a few notes thereon. Wisconsin Naturalist 1(7): 103–105; 1(8): 125–127; 1(10): 146–148; 1(12): 181–183.
- Kumlien, L. and N. Hollister. 1903. The birds of Wisconsin. Bulletin of Natural History Society 3(1–3): 1–143; published in same year in one volume with the cooperation of the Board of Trustees of the Milwaukee Public Museum.
- Lakela, O. 1940. The status of piping plovers Minnesota Point. Flicker 12: 34.
- Lound, M. and R. Lound. 1957. Field notes, summer season, June 1–August 15, 1957. Passenger Pigeon 19(4): 174–181
- Matteson, S. W. 1978. Observations along parts of the Wisconsin shoreline of Lake Superior. Report, Office of Endangered And Nongame Species, Wisconsin Department of Natural Resources. 10 pp.
- Matteson, S. W. 1979. Status of breeding gulls and terns on the Wisconsin shore of Lake Superior in 1979. Report U.S. National Park Service and Wisconsin Department of Natural Resources. 56 pp.
- Matteson, S. W. 1980. 1980 survey of breeding gulls and terns in Chequamegon Bay. Report Endangered Species Commission, Wisconsin Department of Natural Resources. 19 pp.
- Matteson, S. W. 1981. 1981 status of colonial nesting birds and the piping plover (*Charadrius melodus*) on parts of the Wisconsin shore of Lake Superior. Report Office of Endangered and Nongame Species, Wisconsin Department of Natural Resources. 18 pp.
- Matteson, S. W. 1982. 1982 survey of the Common Tern, Black Tern, Double-crested Cormorant, and Piping Plover along the Wisconsin shore of Lake Superior. Report Bureau of Endangered Resources. Wisconsin Department of Natural Resources. 20 pp.
- Matteson, S. W. 1996. Birds of Wisconsin's lake beaches and dunes. Passenger Pigeon 58(4): 335–413
- Matteson, S. W. 2002. Study 215, conservation of endangered, threatened and nongame birds. Performance Report, 1 July 2001 to 30 June 2002. Wisconsin Department of Natural Resources, Bureau of Endangered Resources. 15 pp +
- Matteson, S. W. 2003. Study 215, conservation of endangered, threatened and nongame birds. Performance Report, 1 July 2002 to 30 June 2003. Wisconsin Department of Natural Re-

sources, Bureau of Endangered Resources. 22 pp.

- Matteson, S. W. 2004. Study 215, conservation of endangered, threatened and nongame birds. Performance Report, 1 July 2003 to 30 June 2004. Wisconsin Department of Natural Resources, Bureau of Endangered Resources. 32 pp.
- Matteson, S. W. 2005. Study 215, conservation of endangered, threatened and nongame birds. Performance Report, 1 July 2004 to 30 June 2005. Wisconsin Department of Natural Resources, Bureau of Endangered Resources. 44 pp.
- Matteson, S. W. 2006a. Piping plover (Charadrius melodus). *In* Atlas of the breeding birds of Wisconsin (Cutright, N. J., B. R. Harriman, and R. W. Howe, eds.). Wisconsin Society for Ornithology, Waukesha.
- Matteson, S. W. 2006b. Study 215, conservation of endangered, threatened and nongame birds. Performance Report, 1 July 2005 to 30 June 2006. Wisconsin Department of Natural Resources, Bureau of Endangered Resources. 45 pp.
- Matteson, S. W. and P. Manthey. 1998. Study 215, conservation of endangered, threatened and nongame birds. Performance Report, Wisconsin Department of Natural Resources, Bureau of Endangered Resources. 13 pp +.
- Matteson, S. W. and P. Manthey. 1999. Study 215, conservation of endangered, threatened and nongame birds. Performance Report, Wisconsin Department of Natural Resources, Bureau of Endangered Resources. 12 pp.
- Matteson, S. W. and P. Manthey. 2001. Conservation of endangered, threatened and nongame birds. Performance Report, 1 July 2000 to 30 June 2001. Wisconsin Department of Natural Resources. 14 pp.
- Matteson, S. W. and F. C. Strand. 1987. Management and reintroduction of the piping plover in Wisconsin. Performance Report, Wisconsin Department of Natural Resources. 10 pp.
- McEachern, K. Physiographic ecology of Long Island, Apostle Islands, Wisconsin: vegetation map and study design. Rep. to Apostle Islands National Lakeshore, 35 pp +
- Niemi, G. J. and T. E. Davis. 1979. Notes on the nesting ecology of the piping plover. Loon 51(2): 74–79.
- Nordstrom, L. H. 1990. Assessment of habitat suitability for reestablishment of piping plovers in the Great Lakes National Lakeshores. M.S. thesis, University of Missouri-Columbia. 120 pp.
- Powell, A. N. and F. J. Cuthbert. 1992. Habitat and reproductive success of piping plovers nesting on Great Lakes islands. Wilson Bulletin 104(1): 155–161.

- Robbins, S. D., Jr. 1949. The 1948 nesting season. Passenger Pigeon 11(1): 21–22.
- Robbins, S. D., Jr. 1991. Wisconsin birdlife. University of Wisconsin, Madison.
- Roberts, T. S. 1936. The birds of Minnesota. Second edition, revised, volume 1. The University of Minnesota Press.
- Roberts, N. and H. Roberts. 1964. Field notes, summer season, June 1–August 15, 1963. Passenger Pigeon 26(1): 63–67.
- Roberts, N. and H. Roberts. 1965. Field notes, summer season, June 1–August 15, 1964. Passenger Pigeon 27(2): 81–87.
- Roberts, N. and H. Roberts. 1966. Field notes, summer season, June 1–August 15, 1965. Passenger Pigeon 28(2): 79–83.
- Roberts, N. and H. Roberts. 1967. Field notes, the summer season, June 1–August 15, 1966. Passenger Pigeon 29(2): 38–42.
- Robert, N. and H. Roberts. 1968. Field notes, summer season, June 1–August 15, 1967. Passenger Pigeon 30 (2): 92–97.
- Roberts, N. and H. Roberts. 1969. Field notes, summer season, June 1–August 15, 1968. Passenger Pigeon 31(2): 247–250.
- Roberts, N. and H. Roberts. 1970. Field notes, summer season, June 1–August 15, 1969. Passenger Pigeon 32(2): 62–67.
- Roberts, N. and H. Roberts. 1971. Field notes, summer season, June 1–August 15, 1970. Passenger Pigeon 33(2): 89–97.
- Roberts, N. and H. Roberts. 1972. Field notes, summer season, June 1–August 15, 1971. Passenger Pigeon 34(2): 74–81.
- Roberts, N. and H. Roberts. 1978. Field notes, the summer season, June 1–July 31, 1977. Passenger Pigeon 40(2): 406–412.
- Russell, R. 1983. The piping plover in the Great Lakes region. American Birds 37(6): 951–955.
- Sander, P. 1969. Kenosha sand dunes. Wisconsin Academy Review 16(3): 2–6.
- Sander, P. 1995. Chiwaukee prairie memories. Chiwaukee Prairie Preservation Fund, Inc. 40 pp.
- Scott, W. E. 1941. Some Wisconsin bird specimens submitted to the United States National Museum. Passenger Pigeon 4: 103–105.
- Soulen, T. K. 1965. Field notes, spring season, March 1–May 31, 1964. Passenger Pigeon 27(1): 24–47.
- Soulen, T. K. 1967. Field notes, spring season, March 1–May 31, 1966. Passenger Pigeon 29(1): 37–51.
- Steffens, W. P. 2006. Piping plover, beach-dune tiger beetle, and Lake Huron locust surveys on Lake Superior. Bureau of Endangered Resources Report, Wisconsin Department of Natural Resources. Madison. 20 pp.
- Stoddard, H. L. 1923. Local bird notes. Pp.

123–129 in Yearbook, Public Museum, Milwaukee. Milwaukee, Wisconsin.

- Stucker, J. 2002. Great Lakes piping plover call, October 2002. 3(1): 1 p. Department of Fisheries, Wildlife, Conservation Biology, University of Minnesota. St. Paul, Minnesota.
- U.S. Fish and Wildlife Service. 1988. Great Lakes and Northern Great Plains Piping Plover Recovery Plan. U.S. Fish and Wildlife Service, Twin Cities, MN. 160 pp.
- Wright, E. G. 1942. The summer season. The Passenger Pigeon 4 (3): 85.

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Indigo Bunting by Tom Prestby.



Swainson's Thrush by Tom Prestby.

Lessons From the Seasons: Spring 2006

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👕n late March 1978, I had an en-Lounter with a Ross's Goose (*Chen* rossii) at Schoenenberg Marsh in Columbia County. My initial euphoria over the sighting led to very anxious moments. What if I identified the bird incorrectly? Such birding icons as Daryl Tessen, Sam Robbins, or Mary Donald may have seen the bird and called it a Snow Goose (Chen caerulescens). A few anxious days passed while I captured the field notes from a distance and in the evening went to the zoology library at UW-Madison to confirm the details. I needed to be extra careful in my identification, because this bird was so rare that most birders at the time had not seen one.

How times have changed. In less than thirty years, Ross's Goose is a staple for birders every spring and occasionally in the fall. Birding information then was pass along by chance meetings in the field, letter, and occasional phone trees. Today with birdnets, ebird, and image-sharing software, communication is nearly instantaneous. A sighting of a Ross's Goose in the field can be communicated and in the hands of thousands of birders in a few minutes.

This spring at least a dozen counties

had Ross's Goose sightings. However, the world's fastest information cannot account for the tremendous increase in sightings. When I had my 1978 sighting, the mid-continent population of Ross's Goose was estimated at 2400 birds with most wintering in Texas. Today's estimate is 40,000 birds with many wintering in Missouri. Ross's and Snow Geese have experienced a population explosion in the past few decades. The continent-wide population is estimated at 400,000 birds and estimates for the next ten years do not see any reduction in numbers. Ten years from now projections are from 600,000 on the low end to 1,400,000 on the upper end. Wisconsin birders should be able with relative ease to find Ross's Goose in the foreseeable future.

Two large-scale weather events influenced the spring migration. Exceptionally warm weather in early April led to a plethora of early sightings. Record or near record early sightings occurred for White-eyed Vireo, Philadelphia Vireo, Golden-winged Warbler, Tennessee Warbler, and Yellow-throated Warbler, to name a few. In general, birders assume these early migrants were blown in by favorable south winds. This perception may be only partially true as an explanation for why early records were set.

A larger factor in the early records is due to changes in species ranges. Many neotropical migrants that formerly left the United States in winter are now finding livable winter niches in southern states. Winter records and CBCs have shown a continuous upward trend in the number of over wintering neotrops. These birds have much less distance to fly and can take advantage of warm southerly breezes. In early April, these continental United State weather systems do not have an affect on the northern tip of the Yucatan peninsula.

The other event was not so joyous in the mind of many birders. Right at the peak of warbler, thrush, and flycatcher migration an intense and virtually immovable low-pressure system plopped down like a green blob of slime on east central Wisconsin. The resultant weather had the whole state enveloped in an extremely cold, wet period with strong winds coming from the north to northeast. Migration essentially shut down in Wisconsin, but to the east and west our neighbors had exceptional fallouts of migrants.

This weather was tough on birders, absolutely, but what about the birds. Many birds apparently lingered with numerous reports coming from after Memorial Day and many well into summer. They have ways to adapt–go east, go west, wait it out, these seem to be response mechanisms. When this system ever so slowly moved east, the state's birders may have benefited, because late May saw one of the best Whimbrel migrations in memory. They may have ventured west from their Lake Erie migration path when the storm and their biological clocks merged in late May.

A letter received from John Bielefeldt led to this final lesson or maybe it's a soapbox. John documented the known records for the last five years for Great Tit (Parus major). He notes several reports from at least six counties in a swath of southeastern Wisconsin 25 to 75 miles wide. Dispersal, surand detection of released vival, individuals in such a large area in a short-lived passerine seems unlikely unless multiple releases or successful breeding in the wild are involved. John suggests that, in either case, it may be prudent to track sightings of this species in print as we did with the House Finch.

I concur with John's plea. Among the several European species reported over the past five years, this species has consistently been reported the most often. I suggest we not only document the sighting, but also record important biological events such as nesting and interactions with our native chickadees, titmice, and nuthatches. Parus major is a beautiful bird and if it becomes established, whether benign or an aggressive competitor, the bird will become beloved by many. Once that happens, and if it displaces native species, we can virtually kiss good-bye any control methods or management.

The Spring Season: 2006

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Most observers who included com-ments with their reports expressed frustration, irritation almost, concerning the nature of the migration this spring. "Uneventful and generally poor" was Philip Ashman's succinct summary. Daryl Tessen flatly called it "the most unusual in recent memory." It was "slow and late," and one "had to work" for warblers, which were "present in poor numbers, trickling through." A prolonged warm spell in April caused the earlier passerine migrants to show up ahead of schedule, but then a correspondingly long cold and rainy spell in May meant that the later migrants showed up behind their schedule (Figs. 1 & 2). Besides warblers, thrushes also came in for concerned comments as to low numbers, with Steve Thiessen noting that 20 Swainson's and 5 Gray-cheeked Thrushes in Rock County on 20 May was "the only good flight of thrushes I saw." And one suspects that he was still luckier than most at that.

Marilyn Bontly spoke for many when she aptly observed that "the number of species was about the same, but there were far fewer individuals." Ken Lange hinted at the question bedeviling all of us: from year to year, are we just looking at simple random variation, or is the perceived downward trend in numbers symptomatic of something far more serious? He has been covering Sauk County migrations since 1966 and expressed alarm over a nose dive in Yellow-rumped and Palm Warbler numbers there that began abruptly in Spring 2005 and continued through Fall 2005 and the current season. His recent seasonal totals have been less than what he used to find on single peak days. We can argue about what, if anything, all this means, but we should definitely be concernedvery concerned-about such developments.

The situation with respect to rarities, however, seems resistant (at least for now) to such negative trends. Every spring still brings a generous and exciting share of them, and this year was no exception. Tessen again: "There were some nice rarities, if one was lucky."

Ryan Brady, after echoing the sentiment that migrant numbers were "nothing spectacular," pronounced it "a great season for rarities." A quick glance at the "Rarities" section later in this essay will easily confirm that. And so we will be out there again in Spring 2007, monitoring the numbers of common species with concern because no



one will do it if we don't, but always on the lookout for something unusual to lift our spirits and keep us from giving up.

WEATHER AND BIRDS

I will join the chorus of seasonal editors in lamenting the fact that fewer and fewer observers are including comments on the weather. There were in fact only two this spring! My lament however will come with a threat: if the trend continues, I will be forced to do my own impressions, and you don't want to see that, as I can think of very few people who pay as little attention to the weather as I do. But I can learn, if I have to. Meanwhile, here is a composite summary from Philip Ashman (Dane County) and Karen Etter Hale (Jefferson County).

Ashman: "March weather was normal until the 10th when south winds brought in warmer temperatures—on the 11th it was 65°. Huge northwest winds and colder weather returned on the 13th and there was a 3 inch snow-



Figures 1 and 2. While fishing on Lake Michigan, Saturday, 27 May 2006, we were visited by first a Magnolia Warbler, then a Palm Warbler. We were about 5 to 7 miles northwest of McKinley Park from Milwaukee. Visibility due to fog was about 200 feet or less. These birds did not seem at all frightened or exhausted. They hopped around the boat and on the rods for about a half hour snacking on the rather docile flies in the boat.—Don Bush, Edgerton, Dane County, WI.

fall on the 16th. The rest of the month was seasonal until the 30th when south winds returned. Northwest winds returned on 3 April and it stayed cool until the 10th when strong south winds blew in. A large thunderstorm with hail hit on the 13th and on the 14th the temperature reached 84°. The rest of the month was seasonal. The warm temperatures during April and some rain enabled many trees to leaf out about two weeks earlier than normal, which affected viewing conditions later in the season. May started out warm with south winds, and migration moved along normally with a few new species every day until the 11th, when very strong northwest winds arrived



Figure 3. This Cinnamon Teal was photographed by Seth Cutright on 7 May 2006 in Ozaukee County.

and persisted for a full week. The migration slowed to a trickle. South winds finally returned on the 23rd and the rest of the month was very warm: the temperature hit 90° on the 28th."

Hale: "Overall, March was rather wet and wild, with snow or rain on 10 of the 31 days. April was stormy and rainy, with 4.21 inches of rain over 11 days and a hailstorm on the 13th. May started out moderate, but deteriorated into a cold and rainy stretch, with rain on 8 of 9 consecutive days, before ending with hot weather, including 2 days in the 90s. There was rain on 12 days, totaling 4.7 inches."

RARITIES

The Wisconsin Society for Ornithology Records Committee voted favorably on reports for the following unusual species (numbers in parentheses refer to the number of distinct locations involved, not the total number of reports accepted for the species): Cinnamon Teal (Fig. 3), Eurasian Wigeon (2), Glossy Ibis (Fig. 4), White-faced Ibis, Wilson's Plover (Fig. 5), Blacknecked Stilt (2) (Fig. 6), Glaucouswinged Gull (Fig. 7), Black-legged Kittiwake, Band-tailed Pigeon, Eurasian Collared-Dove (2), Barn Owl, Scissortailed Flycatcher (2), Western Tanager, Lark Bunting (Fig. 8), and Bullock's Oriole. Of these, Glaucouswinged Gull was a fifth state record, Bullock's Oriole a third, and Wilson's Plover and Band-tailed Pigeon each the second record. See the species accounts and "By the Wayside" for details.

The Committee also considered reports for commoner species that were unusually early. Accepted were reports for Semipalmated Plover (3rd earliest), Barn Swallow (3rd earliest), Goldenwinged Warbler (earliest ever), Tennessee Warbler (2nd earliest), Yellowthroated Warbler (2nd earliest), and Le Conte's Sparrow (2nd earliest).

The final accepted report concerned a species found well outside its normal range: a Pine Grosbeak in Milwaukee County.

ARRIVALS AND DEPARTURES

Only one record of all time earliest arrival was erased, the Golden-winged Warbler record mentioned above, with an 8 April appearance in Dane County obliterating the previous record of 24 April 2001 (also in Dane County). Second or third earliest arrival dates (ties in some cases) not already mentioned above were established for Green Heron, Black-necked Stilt, White-eved Vireo, Warbling Vireo, Kentucky Warbler, Common Yellowthroat, Hooded Warbler, Scarlet Tanager, Lark Sparrow, and Savannah Sparrow. Though these reports were not submitted to the WSO Records Committee, a description or at least some reference to the unusual timing of the sighting was given in most cases.

Three species were notably "late," each in a different sense of the word. The latest spring record of a Blacklegged Kittiwake had been 27 April 1972; this year's individual was seen on 10 May (both were in Ozaukee County). An Ozaukee County Summer Tanager reported on 29 May becomes the latest spring report, but this is tempered by the fact that there have been at least three summer records, one of which extended from 8 May to 9 August [2000, Marquette County], so technically it would remain the "latest" spring sighting. Finally, one regularly occurring species did set a record for its all time latest arrival: Common Nighthawk, whose first arrival this year on 14 May eclipsed the previous record of 12 May 1996.

REINTRODUCTIONS AND EXOTICS

Whooping Cranes were reported twice. Ziebell reported one individual in Winnebago County on 13 May. Then Knispel saw two birds in Wood County on 18 May.

There were also two reports of birds of suspicious origin. The parade of Eurasian passerine species of the last few years was reduced to a single report, one of 2 Great Tits in Milwaukee County on 10 April (Gustafson). In a possibly different category was another Gustafson sighting, that of a Monk Parakeet, also in Milwaukee County, on 12 April. This species is now well established in northwestern Illinois and the numbers are growing, so that this could well represent a "pioneer" from that population.

STATISTICS

Eighty-two observers submitted reports. Two additional observers were cited, for a total of 84 contributors and cited observers [observer "teams" being counted once]. With just a handful of exceptions to flesh out a report, Wisconsin Bird Network reports were *not* used this year to supplement the data. Ninety-seven reports consisted of what I have been calling "comprehensive" coverage of a county; that is, each totals 25 or more species in that county. Of Wisconsin's 72

counties, 50 were covered by one or more such reports, with Dane County as usual having by far the most (9). Milwaukee County (6 reports) and Burnett, Columbia, Dodge and Winnebago Counties (4 reports each) followed. An additional 21 counties received "incidental" coverage, i.e. reports of fewer than 25 species only. Since 50 + 21 = 72 - 1, indeed just one county remained completely unrepresented: Marquette County. And there were in fact a couple of Wisconsin Bird Network Reports from that county, but the trained statistician in me says it is unethical to "cook" the data by selectively including just that information!

The total number of species seen was 314. The most prominent missing species would have to be Gray Partridge. Western Sandpiper was missing, again; but this is clearly an artifact of the decision to make it a Records Committee species. Plausible reports on the Wisconsin Bird Network of Chuck-will's-widow (the Vernon County individual returning for the third straight year) was not followed up and so also fell by the wayside.

THE ACCOUNTS

These 24 widespread, common and mostly sedentary species are not included in the species accounts: Canada Goose, Mute Swan, Mallard, Ring-necked Pheasant, Wild Turkey, Cooper's Hawk, Ring-billed Gull, Herring Gull, Rock Pigeon, Mourning Dove, Great Horned Owl, Barred Owl, **Red-bellied** Woodpecker, Downy Hairy Woodpecker, Woodpecker, Pileated Woodpecker, American Crow, Black-capped Chickadee, Whitebreasted Nuthatch, European Star-



Figure 4. The Glossy Ibis found at Horicon Marsh, Dodge County, was photographed by Seth Cutright on 15 May 2006.



Figure 5. Ryan Brady took this photograph of the Wilson's Plover at Chequamegon Bay (Bayfield County) on 13 May 2006.



Figure 6. Black-necked Stilt, photographed along the Auto Tour at Horicon Marsh National Wildlife Refuge on 4 May 2006 by Richard Armstrong.



Figure 7. Dan Jackson photographed this Glaucous-winged Gull while it was present in La Crosse, La Crosse County, between 21-24 March 2006.



Figure 8. While returning home from the WSO convention on 28 May 2006, Jack, Cathy, and Johnny Kaspar found this Lark Bunting at Thunder Marsh in Oneida County.

ling, Northern Cardinal, House Finch, American Goldfinch, House Sparrow.

Abbreviations: BOP = beginning of period; EOP = end of period; TTP = throughout the period; WSO = Wisconsin Society for Ornithology.

REPORTS (1 March-31 May 2006)

Greater White-fronted Goose—The largest reported flock consisted of 300 individuals that Tessen found on 25 March in Columbia County. His last report from that county was of an individual on 13 April. Brady reported birds in Ashland/Bayfield Counties between 26 March and 10 April. Kearns found a lingerer in Winnebago County on 20 May. Representing perhaps the most unusual location for the season would be the 40 individuals that Romano found in Grant County on 9 March.

Snow Goose—Tessen in Columbia County again reported the largest flock, 18 birds on 25 March. Individuals lingered in Ashland/Bayfield Counties until 29 April (Brady) and in Door County until 18 May (Lukes). Southwestern Wisconsin was represented only by a 14 April report from Iowa County (Pugh).

Ross's Goose—Reports, all in March, from 7 counties. The first were 2 birds on 11 March in Fond du Lac County (Tessen), the last 4 birds in Columbia and 2 in Sheboygan Counties on 24 March (Wood). Thiessen reported the maximum of 6 in Dane County on 15 March.

Cackling Goose—All but 1 of the 13 county reports came from counties southeast of Sauk and Outagamie Counties. The exception was Ashland/Bayfield Counties, where Brady reported them between 1–18 April. Those were the latest reports except for a 29 May report from Manitowoc County filed by Tessen. A. Holschbach had it at BOP in Sauk County. Prestby reported the greatest numbers, 180 individuals in Columbia County on 15 March.

Trumpeter Swan—Overwintering birds (114 individuals on 11 March) were subsequently reported nesting in St. Croix County by Persico. Sixty more were located in Burnett County on 25 May (Tessen). Nesting was also reported in Grant County (Lesher). Gustafson observed them in Waukesha County until 7 May. **Tundra Swan**—First reported by Jacyna from Walworth County on 5 March. Flocks of well over 1,000 were reported from Marinette County on 28 March (Campbell) and from Oconto County on 2 April (Smiths). Ziebell (Winnebago County) reported the latest individuals on 25 April. Reported from 21 counties throughout the state.

Wood Duck—In Iowa County on 3 March for the first report (A. Holschbach). Belter tallied 70 in Marathon County on 26 April.

Gadwall—Reported at BOP in Dane, Sauk, Winnebago, and St. Croix Counties. Belter had 80 in Marathon County on 1 April.

Eurasian Wigeon—Two individuals appeared during the period. Uttech found one in Sheboygan County on 19 March; it remained until at least 29 March, the date at which another bird made a one-day only appearance in Dane County (documented by Stutz). Prestby and Tessen provided documentation for the Sheboygan County bird.

American Wigeon—Not reported until 8 March (Winnebago County, Ziebell). Belter had 200 in Marathon County on 8 April.

American Black Duck—Widely reported from 21 counties. Pugh had a high count of 40 in Racine County on 6 March. Still present at EOP in Winnebago (Ziebell) and Oneida (Tessen) Counties.

Blue-winged Teal—Arrived in Waukesha County (Gustafson) on 10 March, with 5 more counties added by 20 March. There were 150 in Grant County on 9 April (Stutz) and 120 in Marathon County on 5 May (Belter).

Cinnamon Teal—A drake was present between 7–12 May in Ozaukee County; like the Eurasian Wigeon, it was found by Uttech and subsequently documented by Cutright, Gustafson, Prestby, and Tessen. [Fig. 3]

Northern Shoveler—Reported at BOP only in Dane County (Ashman). On 15 April, Ashman counted 200 in Dane County, while Persico had 212 in St. Croix County.

Northern Pintail—Richland, Sauk, Racine, and Door Counties had BOP reports. Remained until 5 April in Winnebago County (Ziebell) and until 12 April in Sauk County (A. Holschbach); the latter observer also recorded the maximum of 118 there on 14 March. **Green-winged Teal**—First recorded on 8 March by Gustafson in Waukesha County. Arrived in Dane County the next day, where it was reported breeding at EOP (Thiessen). J. Holschbach counted 132 in Manitowoc County on 2 April.

Canvasback—By far the largest concentration was reported from La Crosse County (2,500 individuals on 25 March) by Stutz. EOP reports came from Eau Claire (Polk) and Winnebago (Ziebell) Counties.

Redhead—The highest count came from Hoffmann in Kenosha County on 23 March (430 individuals).

Ring-necked Duck—Thiessen (Dane County) filed the only BOP report. Numbers topped out at 1,000 in Marathon County on 8 April (Belter). Two reports on 13 May represented the latest sightings (Persico, St. Croix County and Ziebell, Winnebago County).

Greater Scaup—Pugh reported 300 in Racine County on 10 March, Brady 450 in Ashland/Bayfield Counties on 23 April. Reports of small numbers well away from the Great Lakes came from Iowa, Dane, St. Croix, and Marathon Counties.

Lesser Scaup—More widespread than the previous species, with reports from 26 (vs. 20) counties. A thousand individuals were in La Crosse County on 25 March (Stutz), while 1,700 were counted in Ashland/Bayfield Counties on 2 May (Brady).

Harlequin Duck—The sole report came from Pugh in Racine County on 6 March.

Surf Scoter—Reports came from the Lake Michigan Counties of Milwaukee, Ozaukee, Sheboygan, and Manitowoc, spanning the period from 23 March (Ozaukee County, Frank) to 19 May (Manitowoc County, Shillinglaws). Tessen had 17 in Ozaukee County on 8 April.

White-winged Scoter—But two reports, first from Door County on 3 March (Lukes) and then from Ozaukee County between 12 March and 8 April (Tessen). No more than 1 or 2 individuals were indicated at any one time.

Black Scoter—Present in Ozaukee County from 12 March to 18 May (Tessen), with Frank counting 8 there on 6 April. Also reported twice from Manitowoc County, with Tessen finding 4 on 18 May and the Shillinglaws 2 on 19 May. **Long-tailed Duck**—Present offshore in Racine, Milwaukee, Ozaukee, and Door Counties, with 243 reported in Ozaukee County on 13 April (Frank). Still present in that county as late as 18 May (Tessen).

Bufflehead—Belter had 400 in Marathon County on 8 April. Lingered in Milwaukee County until 19 May (Frank).

Common Goldeneye—Ziebell counted 1,800 in Winnebago County on 12 March. Away from more northern counties, it was last reported from Ozaukee County on 18 May (Frank).

Barrow's Goldeneye—Wood reported a female in Sheboygan County on 5 March.

Hooded Merganser—At BOP in five southern counties. Belter's 400 in Marathon County on 26 March topped all counts.

Common Merganser—Widespread at BOP and TTP in Winnebago and Door Counties. Again, Belter counted by far the most, with 350 on 2 April in Marathon County.

Red-breasted Merganser—Reported TTP in Door County (Lukes) and from 8 March to EOP in Winnebago County (Ziebell). Frank had 215 in Ozaukee County on 27 April.

Ruddy Duck—Ashman and Tessen noted them present at BOP in Dane and Brown Counties respectively. Ziebell had 266 in Winnebago County on 13 May. Notable for the northern tier was a 15 May report from Ashland/Bayfield Counties (Brady).

Ruffed Grouse—Found in 17 counties, with Dane and Outagamie Counties forming the southeastern border of the reported range.

Spruce Grouse—Wood found 1 male each in Forest and Vilas Counties on 12 March. There were no other reports.

Sharp-tailed Grouse—Individuals or flocks were reported from Burnett, Douglas, and Bayfield Counties, with the LaValleys tallying 9 in Douglas County on 20 April.

Greater Prairie-Chicken—Belter noted 16 in Marathon County on 8 April. Evanson also filed a report from Portage County on 28 May.

Northern Bobwhite—Duerksen found an encouraging 18 in Richland County on 19 March. Reports also came from the nearby counties of Iowa, Dane, and Rock. Kenosha and



Ozaukee County reports might be viewed with mild suspicion as to origin, but a 23 May report from Marinette County (Campbell) really raises eyebrows!

Red-throated Loon—First noted on 12 March in Ozaukee County (Tessen). Frank had the highest total (9 individuals) in Sheboygan County on 20 April. Also present in Manitowoc and Racine Counties, the latter furnishing the latest report (3 May, Gustafson).

Common Loon—Reported from 35 counties, but with Mississippi River counties completely unrepresented. An 11 March report from Kenosha County (Hoffmann) was the earliest, with Tessen adding a Sheboygan County report the next day. Kirch counted 36 in Calumet County on 9 April, with Brady adding 66 in Ashland/Bayfield Counties on 27 April.

Pied-billed Grebe—Appeared on 10 March in Waukesha County (Gustafson), with Kenosha, Dane, and St. Croix Counties added Figure 9. Birders looking at the Glossy Ibis found during the Horicon Marsh Bird Festival, 4 May 2006. Photo by Richard Armstrong.

the next day. Stutz had 35 in Dane County on 8 April.

Horned Grebe—Hoffmann found one in Kenosha County on 11 March, with 3 more counties added the next day. Brady had close to 1,500 individuals in Ashland/Bayfield Counties on 22 April. Still present in Douglas County on 26 May (Tessen).

Red-necked Grebe—Arrived on 31 March in Marathon County (Belter); he noted it there until 5 May. Brady's count of 16 on 22 April in Ashland/Bayfield Counties was the high. Polk had 3 in Eau Claire County on 5 May. Recorded in 11 counties.

Eared Grebe—Only mentioned from Dodge County, an individual reported on 17 May by Gustafson and again on 18 May by Tessen.

Western Grebe—An individual was present in Eau Claire County from 5–16 May (Polk).



Figure 10. American Avocets at Goose Pond, Arlington, Dane County, Wisconsin on 22 April 2006, photographed by Richard Armstrong.



Figure 11. An Iceland Gull in La Crosse, La Crosse County, was photographed by Dan Jackson on 3 April 2006.

American White Pelican—The 4 Brown County individuals who had apparently decided that Wisconsin winters are now warm enough to not bother migrating were noted by Tessen at BOP. Yoerger also had them very early (on 11 March) in Green County. These are recent developments, but perhaps not unexpected with the dramatic increase in this species. Romano counted 340 in Grant County on 31 March. Appeared in 25 counties throughout the state.

Double-crested Cormorant—Like the previous species, also overwintered in Brown County (Tessen). Appeared early in Winnebago County (11 March, Bruce). Hoffmann counted over 2,000 in Kenosha County on 2 April, wondering "Where do they all go?" Perhaps to Winnebago County, where Ziebell noted 2,300 on 13 May.

American Bittern—Arrived fairly early in Kenosha County (26 March, Hoffmann). Arrived in Marathon County on 26 April, with 10 recorded on 25 May (Belter). Tessen added 5 in Green Lake County on 29 April. Recorded in 18 counties across the state, except for the southwestern portion.

Least Bittern—Reported from Grant, Kenosha, Waukesha, Jefferson, Dodge, Winnebago, Oconto, and Marathon Counties, beginning 3 May in Winnebago County (Ziebell). Only one report mentioned more than one individual (Belter's 2 in Marathon County on 28 May).

Great Blue Heron—Found at BOP in Iowa (A. Holschbach), Dane, and Milwaukee (Prestby) Counties. It had reached 4 more counties by 15 March. Belter noted 450 in Marathon County on 5 May.

Great Egret—Arrived on 1 April in Dane (Evanson, Martin) and St. Croix (Persico) Counties. In Winnebago County on 4 April, with 226 counted there on 13 May (Ziebell). Reported from 21 widely scattered counties.

Snowy Egret—Tessen had one early (17 April) in Outagamie County. Wood found one in Brown County on 23 May, and there were 3 in Dane County on 28 May (Prestby).

Little Blue Heron—One was reported by Hoffmann in Kenosha County on 13 April.

Cattle Egret—Evanson filed a Dodge County report on 30 April. Ziebell had 9 in Winnebago County on 9 May. Also found in Kenosha and Fond du Lac Counties. **Green Heron**—Romano's 31 March Grant County find ties for the second earliest arrival on record. Next found in Kenosha County on 10 April (Hoffmann) and in Racine County on 12 April (Fare).

Black-crowned Night-Heron—Ziebell submitted the earliest report, from Winnebago County on 10 April. He counted 210 individuals there on 13 May. Reported from 9 counties, going southeast to northeast from Rock and Dane Counties to Brown and Door Counties.

Yellow-crowned Night-Heron—Two reports: in Iowa County from 4–7 May (A. Holschbach) and in Winnebago County from 17–18 May (Hoffman, Ziebell).

Glossy Ibis—An individual was observed (Fig. 4) in Dodge County during the period 12–16 May, with the earliest report coming from Prestby. He and Cutright submitted photographs; additional documentation came from Gustafson, Stutz, and Tessen (Fig. 9).

Whitefaced Ibis—Gross found 2 in Grant County on 5 May and her report was accepted by the WSO Records Committee.

Turkey Vulture—Appeared in 7 counties from 10–15 March, the first being Manitowoc County (Domagalski). Stutz reported 50 in Grant County on 9 April, with counts of 40 or so added in Sauk and Ashland/Bayfield Counties during May.

Osprey—Arrived on 1 April in Dane (Ashman) and Winnebago (Knispel) Counties. Tessen reported 12 in Burnett County on 24 May. Ashman gave 29 April as his last Dane County date, but Yoerger had it there until EOP.

Bald Eagle—The largest concentrations given were of 95 individuals in Ashland/Bayfield Counties on 12 March (Brady) and of 75 birds in La Crosse County on 15 March (Lesher).

Northern Harrier—Listed as present at BOP in 6 counties, with reports from 2–4 March in 3 more. Marathon County (2 March) was the northernmost of these, and Belter reported 17 individuals there on 15 April.

Sharp-shinned Hawk—Designated as BOP in St. Croix (Persico) and Door (Lukes) Counties. Brady counted 178 individuals at the peak of migration in Ashland/Bayfield Counties on 3 May. **Northern Goshawk**—Reported from 7 northern counties between 7 March and 25 May. No numbers were given in any of the reports.

Red-shouldered Hawk—TTP in Kenosha, Manitowoc, Iowa, and St. Croix Counties. Present as migrants from 12 March to 3 May in Ashland/Bayfield Counties (Brady). Reports came from 17 counties in all.

Broad-winged Hawk—Ironically, the only March report came from far northern Florence County (27 March, Kavanagh). Brady noted the first in Ashland/Bayfield Counties on 15 April and counted 265 of them there on 3 May. Well reported throughout the state.

Red-tailed Hawk—The peak of the migration through Ashland/Bayfield Counties came on 11 April, when Brady counted 209 individuals.

Rough-legged Hawk—A notable late concentration consisted of 8 individuals still in Dodge County on 13 May (Stutz). Tessen had counted 40 there on 4 March for the seasonal maximum. The last Dodge County report came from Gustafson on 17 May. Reported from 17 counties around the state.

Golden Eagle—Reports in March and early April from Sauk, Racine, Portage, Oconto, and Florence Counties, and spanning the dates 12 March to 3 May in Ashland/Bayfield Counties (Brady). The maximum there was 6 on 12 March.

American Kestrel—Reports giving numbers of individuals included Ozaukee (8) and Marathon (7) Counties, reported by Frank on 6 April and Belter on 26 April respectively.

Merlin—Brady's Ashland/Bayfield Counties dates ran from 3 March (also the earliest report statewide) to EOP. Nesting was reported in Marathon (Belter) and Douglas (LaValleys) Counties. Reports came from 12 counties.

Gyrfalcon—An overwintering individual in Ashland County was reported present until 10 March (Brady, Oksiuta).

Peregrine Falcon—Reports came from 16 counties, the majority from the southeastern part of the state. Nesting activity, as well as presence TTP, was noted in Kenosha (Hoffmann), La Crosse (Lesher), and Marathon (Belter) Counties.

Yellow Rail—The following reports were received: 29 April in Green Lake County

(Tessen); 11 May in Burnett County (Haseleu); 27 May in Oneida County (Evanson).

King Rail—Three reports: 29 April in Green Lake County (Tessen); 12 May in Dodge County (Wood, reported as seen); 23 May in Grant County (Romano).

Virginia Rail—Arrived in Winnebago County on 10 April (Bruce). Tessen had 5 in Green Lake County on 29 April. Reported from 19 exclusively eastern and central counties.

Sora—The earliest report came from Waukesha County on 11 April (Gustafson). Knispel counted 10 in Winnebago County on 29 April, while Belter had 20 in Marathon County on 28 May. Reported from 23 counties, but only from Grant and Douglas among the western tier of counties.

Common Moorhen—Reported exclusively in May from Columbia, Dodge, Winnebago, and Outagamie Counties. Tessen had the earliest, in Columbia County on 6 May, while Stutz reported 3 individuals in Dodge County on 13 May.

American Coot—In Kenosha (Hoffmann) and Dane (Ashman) Counties at BOP. Big flocks included 2,000 in Sauk County on 12 April (A. Holschbach) and 1,000 in Jefferson County on 15 April (Hale).

Sandhill Crane—Already present at BOP in at least 6 counties. Belter reported 250 in Marathon County on 5 May.

Black-bellied Plover—Arrived in Racine County on 30 April (Fare), where it was reported as late as 23 May (Gustafson). Belter counted 7 in Marathon County on 25 May. Also reported in Grant, Walworth, Ozaukee, Marinette, Burnett, and Ashland/Bayfield Counties.

American Golden-Plover—Encountered twice, first in Ashland/Bayfield Counties on 14 May by Brady and then in Calumet County on 17 May by Tessen.

Wilson's Plover—An adult female, constituting the state's second record, was found and photographed by Brady (Fig. 5) in Bayfield County on 13 May. It remained until at least 15 May and was also documented by Tessen.

Semipalmated Plover—The third earliest state arrival ever was documented by Dixon on 14 April in Racine County. Next appeared on 27 April in Rock County (Yoerger). The maximum number reported was 150, in Marathon County on 25 May (Belter). Two remained in Waushara County at EOP (Tessen).

Piping Plover—Brady and Bruhnke filed the only report, an individual in Bayfield County on 3 May.

Killdeer—In Richland (Duerksen) and Oconto (Smiths) Counties at BOP. The first arrivals came on 11 March in at least 9 counties. Belter tallied 75 in Marathon County on 25 May.

Black-necked Stilt—The streak of mid-April sightings was extended to three consecutive years, with a 16 April report from Bayfield County (documentation supplied by Bruhnke and Oksiuta). This is the same date as last year's first report. Another individual was present in Dodge County (Fig. 6) from 6–8 May (Tessen).

American Avocet—Prestby and Stutz reported a flock of 41 in Columbia County on 22 April. One was still present there as late as 7 May (Wood). [Fig. 10]

[Editors' Note: the taxonomic order was changed for Spotted Sandpiper through Lesser Yellowlegs by the American Ornithologists' Union (AOU) in 2006. The listing below reflects the change.]

Spotted Sandpiper—A fairly early first arrival date of 13 April was recorded (Ozaukee County, Frank). Brady reported 12 in Ashland/Bayfield Counties on 3 May.

Solitary Sandpiper—Gustafson reported the earliest in Racine County on 14 April. In Dane (Ashman) and Marathon (Belter) Counties as late as 25 May. Reported from 22 counties.

Greater Yellowlegs—Two reports at the end of March: 30 March in Ashland/Bayfield Counties (Brady) and 31 March in Waukesha County (Gustafson). There were 10 in Ashland/Bayfield Counties on 3 May and they were last reported there on 22 May. The latest report came from Grant County on 24 May (Romano). Presence noted in 25 counties.

Willet—The first two reports also represented the only sizable flocks mentioned, with Ashman and Romano finding 38 and 35 individuals in Dane and Lafayette Counties respectively on 29 April. Found later (until 15 May) in Racine, Milwaukee, Sheboygan, Ashland/Bayfield, and Douglas Counties.

Lesser Yellowlegs—Appeared on 1 April in Dane (Evanson), Columbia (Gustafson), and St.



Figure 12. Dennis Malueg captured this Snowy Owl on film in the Buena Vista Grassland, Portage County, 17 March 2006. It was just one of many Snowy Owls that spent the winter/spring of 2005-2006 in Wisconsin.



Figure 13. Seth Cutright took this picture of the Blackbacked Woodpecker found during a WSO convention field trip in Vilas County on 27 May 2006.

Croix (Persico) Counties. Tessen found 80 in Dodge County on 8 May. Still in Ozaukee (Frank) and Marathon (Belter) Counties on 28 May. Found in 28 counties.

Upland Sandpiper—Reports of multiple individuals included 4 in Kenosha County on 10 April (Hoffmann), 5 in Florence County on 13 May (Kavanagh), and 4 in Ashland/Bayfield Counties on 22 May (Brady). The Kenosha County report was also the earliest. Reported from 13 widely scattered counties.

Whimbrel—Seen between 18 May (2, Ozaukee County, Frank) and 29 May (14, Manitowoc County, M. Peterson). Also reported from Racine, Douglas, and Bayfield Counties.

Hudsonian Godwit—The first of 3 reports came on 21 May from Buffalo County (Heagle). Next was a Dane County individual on 25 May (Ashman, Thiessen). Finally, Belter had one from 25–28 May in Marathon County. *Marbled Godwit*—Like the previous species, also reported 3 times: by the Smiths on 7 May in Oconto County; by Brady from 15–25 May in Bayfield County; by Frank on 18 May (2 individuals) in Sheboygan County.

Ruddy Turnstone—Eighteen individuals reported by Hoffmann in Kenosha County on 29 April would be the fourth April arrival on record. Fare next saw them in Racine County on 8 May, with Prestby reporting 12 there on 23 May. Ziebell added 45 in Winnebago County on 21 May. Also reported from 9 other counties, including Grant and Buffalo Counties.

Red Knot—The season's 2 reports came from Racine County (2 individuals, 23 May, Fare) and from Douglas County (26 May, Tessen).

Sanderling—As often, all reports (8 counties) came from counties with Great Lakes or Lake Winnebago frontage. Gustafson's 9 May Milwaukee County report was the earliest. Frank had 3 individuals in Ozaukee County on 28 May.

Semipalmated Sandpiper—Pugh's Racine County report on 19 April was considerably ahead of all others, with the next report not coming until 7 May (Dodge County, Evanson). Numbers seemed to peak towards the end of the month: Belter counted 70 in Marathon County on 25 May, while Tessen noted 120 in Waushara County on 31 May.

Least Sandpiper—Evanson observed the first arrivals in Dane County on 17 April; he recorded them there until 29 May. Flocks of over 100 were reported from Dodge, Brown, and Marathon Counties. Reported from 22 counties, including only Grant County from the western tier.

White-rumped Sandpiper—Arrived simultaneously on 10 May in Dane (Thiessen) and Winnebago (Bruce) Counties. Belter counted 20 in Marathon County on 28 May, with Tessen adding 10 in Waushara County on 31 May. Reported from 11 counties.

Baird's Sandpiper—The first of 9 county reports came on 9 May, when Campbell detected 3 individuals in Marinette County. Tessen's Waushara County 31 May shorebird census yielded 30 individuals of this species. Reports from the western half of the state were confined to Grant County (23 May, Romano).

Pectoral Sandpiper—Klubertanz encountered the first migrants in Rock County on 28 March; he continued finding them there until 26 April. March reports were also filed in Dane and Waukesha Counties. Fifty individuals apiece were seen in Green (23 April, Stutz) and Marathon (25 May, Belter) Counties. Frank had a late individual in Ozaukee County on 28 May. Reported in 16 counties, Grant County again being the only one from the western tier.

Dunlin—The first report came from Fare in Racine County on 17 April. Tessen had 8 in Waushara County on 31 May. Tessen also reported the season's maximum number, 215 in Brown County on 20 May. Detected in 25 counties.

Stilt Sandpiper—Reported in Dodge County on 7 May by Kearns and in Marathon County from 25–28 May (2 individuals) by Belter.

Short-billed Dowitcher—Arrived in Dane County on 3 May (Thiessen). Frank had 15 in Ozaukee County on 21 May. Last reported on 26 May in Milwaukee County (Prestby). Reported in 13 counties, including Buffalo and St. Croix Counties among the less expected ones.

Long-billed Dowitcher—Reported in Dane County from 29 April (Ashman) to 10 May (Thiessen) and in Dodge County from 5 May (Tessen) to 13 May (Prestby).

Wilson's Snipe—Not mentioned until 23 March, when Hoffmann encountered it in Kenosha County. Also reached Rock and Dane Counties (Klubertanz) by month's end. Belter had 16 in Marathon County on 26 April.

American Woodcock—Arrived simultaneously in Kenosha (Hoffmann), Waukesha (Gustafson), and Winnebago (Ziebell) Counties on 11 March. Belter reported 25 in Marathon County on 5 May. M. Peterson saw a female with 4 chicks in Shawano County on 28 May.

Wilson's Phalarope—No April reports; first seen on 2 May by Ashman in Dane County. Tessen had 6 in Columbia County on 6 May and Belter counted 7 in Marathon County on 25 May. Found in 15 counties exclusively in the eastern half of the state.

Red-necked Phalarope—Arrived late, with Dane (Stutz) and Burnett (Tessen) County reports on 24 May. Also found on 27 May in Racine County (Fare) and on 29/30 May in Milwaukee (Prestby/David).

Laughing Gull—Two individuals were in Racine County from 13–16 May for the season's only report (Fare, Howe).

Franklin's Gull—Lesher had one in La Crosse County on 14 April. Others were seen during the last week of May in Racine, Manitowoc, and Ashland/Bayfield Counties.

Little Gull—Present in two locations during much of May. An adult was noted in Ashland/Bayfield Counties on 1 May and again on 21 May (Brady, Bruhnke). Up to 3 juveniles and 1 adult were present in Manitowoc County from 3–29 May (Cutright, Tessen, Wood).

Bonaparte's Gull—Appeared first on 2 April in Dane (Stutz) and Winnebago (Ziebell) Counties. Brady counted a staggering 2,900 in Ashland/Bayfield Counties on 29 April, with Frank adding 1,500 in Ozaukee County on 12 May. Appeared everywhere in the state.

Thayer's Gull—Reported in 9 mostly southeastern counties, with a "Kumlien's/ Thayer's" type adult in Bayfield County the prominent exception (12 May, Brady). The last report was on 18 May in Ozaukee County (Frank).

Iceland Gull—reported from Milwaukee, Ozaukee, and Manitowoc Counties and, across the state, La Crosse County (Fig. 11). A Manitowoc County report on 22 May (Wood) was notably late.

Lesser Black-backed Gull—Reports came in from 9 counties, notably Bayfield and La Crosse Counties. The final report came on 22 May in Manitowoc County (Wood).

Glaucous-winged Gull—A third-year individual was discovered by Jackson in La Crosse County on 21 March; it remained there until at least 24 March and was well documented with photographs (Fig. 7). This is the second spring record in a row and constitutes the state's fifth overall record. Note: the fourth record, on 26 March 2005 in Douglas County (R. Johnson, S. Putz), was reviewed too late for inclusion in last year's report.

Glaucous Gull—Found in 9 Great Lakes counties and in Waukesha, Winnebago, and La Crosse Counties. Still in Manitowoc County at EOP (J. Holschbach).

Great Black-backed Gull—Found in 6 Great Lakes counties and in Winnebago County. The Lukes reported it TTP in Door County, and Tessen had 2 in Sheboygan County on 18 May.

Black-legged Kittiwake—Gustafson documented a first-year individual in Ozaukee County on 10 May. The date is significant in that it becomes record late for the spring season, the previous latest record being a 27 April 1972 bird, also in Ozaukee County.

[Editors' Note: The taxonomic order for terns was altered in 2006 by the AOU. The list below reflects the current order.]

Caspian Tern—Arrived in Milwaukee County on 11 April (Gustafson), Racine County on 12 April (Fare), and in Ozaukee County on 13 April (Frank). Frank and Tessen offered competing estimates of high numbers there on 4 May, with Frank giving 336, Tessen 200, individuals. Among the 15 reporting counties, noted only in Trempealeau County along the western tier.

Black Tern—Showed up first in Dane (Thiessen) and Columbia (Tessen) Counties on 6 May. Thiessen noted 17 in Dane County at

EOP, while Belter counted 50 in Marathon County on 25 May. Appeared in 14 counties.

Forster's Tern—Waupaca County featured the first sighting, with Tessen noting 4 individuals there on 12 April. Frank counted 81 individuals in Ozaukee County on 4 May for high honors. Well represented by 26 counties around the state.

Common Tern—Appeared on 12 April in Kenosha County (Hoffmann) and on 13 April in Winnebago County (Ziebell). Numbers peaked on 12 May, when Frank reported a gratifying 1,000 individuals in Ozaukee County. Made a good showing in the far western part of the state, with reports from Grant, Trempealeau, and St. Croix Counties.

Band-tailed Pigeon—The individual that had been at the Agger feeder in St. Croix County since late November for Wisconsin's second record was documented again from 1–9 April (Gustafson, Tessen) and not reported again thereafter.

Eurasian Collared-Dove—The species is now well established in the state, with reports this season from no fewer than 7 counties. Tessen believed there were between 6 and 8 individuals at the Columbia County site (24 March). Also reported from Grant, Crawford, Green, Milwaukee, Sheboygan, and Calumet Counties.

[Editors' Note: The taxonomic order of the two cuckoos was reversed in 2006 by the AOU.]

Yellow-billed Cuckoo—First noted in Dane County (Martin) on 16 May. Found in 12 counties, including Florence County in the far north.

Black-billed Cuckoo—Fare's 10 May Racine County report was the earliest. Belter noted 5 individuals in Marathon County on 27 May. Present in 16 counties.

Barn Owl—Four apparently orphaned fledglings were brought in to a rehabilitation center in Shawano County on 30 May. Gibson noted, "One died minutes after arrival. They are starving and very dehydrated, and we are trying our best to save the rest." A photograph was accepted as documentation by the WSO Records Committee.

Eastern Screech-Owl—Reported from 10 southern counties, Marathon County and, quite unusually, Bayfield County (Drumheller & Vanselow).

Snowy Owl—Dodge County (26 March, Frank) was the southernmost of the 7 (Fig. 12) reporting counties. On 23 March, 4 individuals were in Ashland/Bayfield Counties, with a 22 April observation there the latest of the season (Brady).

Great Gray Owl—The "afterimage" of the great 2005 invasion consisted of birds in Ashland and Bayfield Counties from 4 March to 30 May, up to 5 individuals in the latter and 1 in the former (Brady).

Long-eared Owl—There were four reports in March, three in April, and one in May (24 May, Oconto County, Smiths). The other counties were Dane, Jefferson, Dunn, Marathon, Ashland/Bayfield, Marinette, and Florence Counties.

Short-eared Owl—Both reports came very early in the season: 2 March, Dane County, Martin and 11 March, Kenosha County, Hoffmann. The latter report was of 6 individuals.

Northern Saw-whet Owl—An interesting distribution pattern for 8 of the 9 reporting counties: two east-west bands of 4 counties each, one in the south (Richland, Dane, Jefferson, and Waukesha Counties) and one in the north (Douglas, Ashland/Bayfield, Florence, and Marinette Counties). Marathon County was the exception, with Belter's 4 individuals there on 9 March the highest number given.

Common Nighthawk—The latest first arrival on record: 14 May in Dane County (Evanson). The previous latest date had been 12 May 1996. Appeared in Racine County the next day (Fare), with Pugh reporting 6 there on 24 May. Reported from only 15 counties (vs. 24 for Spring 2005, for example).

Whip-poor-will—Arrived on 20 April in Marinette and Florence Counties (Kavanagh). Tessen heard 10 calling in Douglas County on 26 May, with M. Peterson adding 6 in Shawano County on 31 May. Noticeably absent from the southeastern portion of the state.

Chimney Swift—Arrived in Milwaukee (O'Connor) and Winnebago (Ziebell) Counties on 19 April. Duerksen tallied 150 in Richland County on 7 May.

Ruby-throated Hummingbird—The sole April report was from Hoffmann in Kenosha County, on 24 April. Next showed up in Door County on 1 May (Lukes). Belter noted 14 individuals in Marathon County on 28 May. **Belted Kingfisher**—Dane, Sauk, and St. Croix Counties featured BOP reports (Prestby, A. Holschbach, and Persico respectively).

Red-headed Woodpecker—At or near BOP in Grant, Green, Walworth, and most notably Washburn Counties, with 4 individuals present there (Haseleu). Next turned up on 5 April in Richland County (Evanson). Reports picked up in mid-April, with an eventual 23 counties represented in the overall count.

Yellow-bellied Sapsucker—No BOP reports, the earliest mention coming on 19 March in Hale's Jefferson County report. Three more counties (Dane, Outagamie, and Marinette) were added the last two days of the month. Kavanagh's 30 individuals in Florence County on 27 April represented the high count.

Black-backed Woodpecker—Reported in Vilas and Oneida Counties during the last week of May by Cutright (Fig. 13), David, and Gustafson.

Northern Flicker—A plethora (at least 9) of BOP reports, coming from all parts of the state. Persico reported 25 individuals in St. Croix County on 8 April, and Belter had 30 in Marathon County on 15 April.

Olive-sided Flycatcher—First reported on 9 May (Dane County, Heikkinen & Unson). There was then a considerable gap between the second report (12 May, Dodge County, Tessen) and the remainder, which commenced on 20 May (Milwaukee County, Gustafson) and continued until EOP. Present in 14 counties.

Eastern Wood-Pewee—A Buffalo County 22 April report (Heagle) was not seconded until 6 May (Grant County, Kearns). Belter topped all counts with 20 individuals in Marathon County on 27 May.

Yellow-bellied Flycatcher—First found on 13 May (Winnebago County, Ziebell). Brady had 6 individuals in seldom-birded Iron County on 29 May. Noted in 15 counties.

Acadian Flycatcher—Turned up in Rock County on 10 May (Klubertanz). Stutz had 8 in Sauk County on 20 May. Also appeared in Grant, Iowa, and Dane Counties.

Alder Flycatcher—Kavanagh filed the first report, from Florence County on 12 May. Dane and Racine Counties were added on 18 May, with the remaining 25 county reports commencing on 23 May and continuing until EOP. There were 20 individuals in Forest County on 27 May (Tessen).

Willow Flycatcher—Three of the 24 represented counties had arrivals in the first half of May, beginning with Dodge County on 7 May (Evanson), continuing with Dane County on 9 May (Stutz), and Winnebago County on 13 May (Ziebell). Stutz and Evanson each reported 8 individuals on 27 May and 29 May respectively in Dane County.

Least Flycatcher—Arrived on 1 May in Dane County (Stutz). Brady noted 64 individuals in Ashland/Bayfield Counties on 22 May.

Eastern Phoebe—Hoffmann's 11 March Kenosha County report was a full week ahead of the next one (18 March, Iowa County, A. Holschbach). Reached Florence County on 29 March (Kavanagh). There were 25 individuals in Grant County on 9 April (Stutz).

Great Crested Flycatcher—Arrivals on 2 May in Dane (Evanson) and Racine (Fare) Counties. Kavanagh had 12 in Florence County on 30 May.

Eastern Kingbird—April arrivals in Calumet (26 April, Kirch), Iowa (28 April, A. Holschbach), and Dodge (29 April, Tessen) Counties. Sixteen individuals were reported twice, first from Marathon County (25 May) and then from Florence County (30 May) by Belter and Kavanagh respectively.

Scissor-tailed Flycatcher—Two reports, first on 17 May in Douglas County and then on 28 May in Jackson County, documented by Hoffman and Calvetti respectively.

Loggerhead Shrike—A paltry two reports, although the first (Oconto County on 16 April) involved a nesting pair (Smiths). Then Brady recorded the first Bayfield County record in about 35 years on 23 April.

Northern Shrike—Present in 13 counties throughout the state. Brady noted 11 in Ashland/Bayfield Counties on 2 March. Individuals lingered there until 7 April, the latest report statewide. Eau Claire (Gustafson) and Oconto (Smiths) County birds also made it into the very beginning of April.

White-eyed Vireo—Reports came in from Green, Sauk, Dane, Racine, and Milwaukee Counties, with the 22 April date for Green County (Evanson, Yoerger) becoming the third earliest on record. All other reports stemmed from May. **Bell's Vireo**—One of the 8 county reports came from well outside the core range in southwestern Wisconsin, with an individual in Winnebago County from 17 May to EOP (Bruce, Tessen, Ziebell) undoubtedly a new bird for at least some county listers. This was also the second earliest arrival for the season, having been preceded only by a report of 2 individuals in Green County on 12 May (Prestby).

Yellow-throated Vireo—A 29 April report from Green Lake County (Tessen) was the only one that month. Stutz had 8 individuals in Sauk County on 28 May. Reported in 32 counties.

Blue-headed Vireo—First detected on 20 April in Waukesha County (Gustafson). Kavanagh listed 10 in Florence County on 9 May. The latest Dane County date was 22 May (Ashman). Reports from 21 counties.

Warbling Vireo—The earliest of 3 reports in April came from Grant County on 24 April (Romano). This represents the third earliest arrival on record. Brady had 11 in Ashland/Bayfield Counties on 22 May.

Philadelphia Vireo—As was the case last spring the reports, representing 10 counties, were heavily skewed towards the eastern tier, with Dane, Iowa, and Douglas Counties the only exceptions. There was a three-way tie for earliest arrival, on 10 May, among Dane, Iowa, and Manitowoc Counties.

Red-eyed Vireo—An early first report of 22 April in Racine County (Fare) was unseconded until 4 May, when it appeared in Dane and Milwaukee Counties. Kavanagh counted a staggering 136 individuals in Florence County on 30 May.

Gray Jay—Tessen reported 4 individuals in Forest County on 12 March. Also found in Oneida, Iron, and Douglas Counties.

Blue Jay—Counts that surely must refer to encounters with transient flocks were registered by Pugh (86 birds in Racine County on 17 May) and Tessen (150 in Douglas County on 26 May).

Common Raven—Reports came from 19 northern and central counties, as far south as Monroe and Manitowoc Counties. Brady counted 52 individuals on the move in Ashland/Bayfield Counties on 22 May.

Horned Lark—Late winter flocks numbered 100 individuals in Outagamie County on 1 March (Tessen) and 90 birds in Marathon County on 10 March (Belter). Unreported in northern tier counties.

Purple Martin—A report on 3 April (Winnebago County, Kearns) stood alone until 11 April (Calumet County, Tessen). Thirty individuals were reported twice, first on 24 May in Winnebago County (Knispel) and then on 31 May in Racine County (Pugh). Present in 28 counties.

Tree Swallow—Arrived quite early, on 11 March in Dane (Stutz) and Jefferson (Jacyna) Counties. Jacyna had 15-20 already on the next day in Racine County. Belter's Marathon County count of 2,000 individuals on 5 May far outstripped all others. Reported from 46 counties.

Northern Rough-winged Swallow—Arrived on 7 April in Dane County (Stutz). Marathon County hosted 250 individuals on 5 May (Belter). Appeared in 39 counties.

Bank Swallow—Tessen reported 3 individuals in Dane County on 13 April for the earliest report. Brady counted 250 in Iron County on 23 May. Reported from 32 counties.

Cliff Swallow—Tessen and A. Holschbach noted the earliest arrival, in Sauk County on 13 April. Belter estimated 1,000 individuals in Marathon County on 5 May. Appeared in 35 counties.

Barn Swallow—Gross documented the third earliest arrival on record with a 17 March sighting in Waukesha County. Waukesha County was also the site of the next sighting, on 5 April (Gustafson). After that it quickly became wide-spread. Belter's 5 May Marathon County swallow census netted 800 of this species. Appeared in 44 counties.

Boreal Chickadee—Only reported towards EOP, with Ashland and Vilas County reports on 26 May and 28 May respectively submitted by Tessen and David.

Tufted Titmouse—Stutz had 12 in Grant County on 9 April. Reported in a crescent of 16 western and southern counties from St. Croix to Racine Counties, and also in Winnebago County from BOP to 13 May (Ziebell).

Red-breasted Nuthatch—Reported as TTP in Dane, Jefferson, Manitowoc, and Outagamie Counties, and in 28 other counties.

Brown Creeper—Most conspicuously absent from the west central part of the state. Reported as BOP in Dane (Ashman) and Winnebago (Ziebell) Counties and as TTP in Iowa (A. Holschbach) and Columbia (Schwalbes) Counties. Departed Waukesha County on 18 April (Gustafson) and Dane County on 19 April (Evanson, Martin). Tessen kept tabs on a pair through most of May in Winnebago County.

Carolina Wren—Twelve reporting counties is the highest total in at least the last six years. Reports reached as far north as Winnebago (Bruce, 31 March) and Calumet (Tessen, 1 May) Counties. The Calumet County individual was in fact seen carrying nesting material! Nesting was also reported in Dane County (Martin).

House Wren—Arrived on 14 April in Rock County (Klubertanz). Stutz counted 12 individuals in Sauk County on 20 May.

Winter Wren—No BOP reports, with a 25 March Columbia County report (Tessen) the first from an eventual 23 counties. Seven individuals were reported twice, first on 9 April in Marathon County (Belter) and then on 3 May in Florence County (Kavanagh). Seen in Milwaukee County as late as 1 May (Bontly).

Sedge Wren—Early individuals were seen in Winnebago County on 21 April (Knispel) and in Washburn County on 22 April (Haseleu). Ziebell counted 157 individuals in Winnebago County on 13 May. Present in 29 counties.

Marsh Wren—Turned up in Winnebago County on 22 April, with Ziebell counting 386 individuals there on 13 May. Present in 19 counties.

Golden-crowned Kinglet—Present at BOP in Jefferson (Hale) and in Ashland/Bayfield Counties (Brady). Frank tallied 33 in Ozaukee County on 6 April. Bontly's Milwaukee County dates ran from 10 March to 1 May. Reported in 29 counties.

Ruby-crowned Kinglet—One report before the end of March, with Kearns registering a 30 March Winnebago County sighting. The latest date given in that county was 20 May (Knispel), which was also the departure date for St. Croix County (Persico). Reported in 33 counties.

Blue-gray Gnatcatcher—Hoffmann's 10 April Kenosha County individual represented the earliest sighting. Stutz counted 12 in Dane County on 6 May. Reported in 33 counties, including Bayfield (16 May, Brady) and Florence (17 May, Kavanagh) Counties. **Eastern Bluebird**—Present at BOP in at least 7 counties. The high count consisted of 35 individuals in Grant County on 9 April (Stutz). Double digit numbers were also registered in Marathon and Iowa Counties.

Townsend's Solitaire—The Sauk County winter residents were duly noted on 3/4 March (Dixon/A. Holschbach); more surprising was an individual on 6 March in Ashland County (Bruhnke).

Veery—April reports consisted of Kavanagh's 26 April Florence County and Tessen's 29 April Green Lake County sightings. Stutz reported 30 in Sauk County on 20 May. Reported statewide from 26 counties.

Gray-cheeked Thrush—Thiessen reported the first individual in Dane County on 4 May; later, he also had the seasonal high count of only 5 in Rock County on 20 May. Reported from only 14 counties.

Swainson's Thrush—The first of an eventual 24 county reports came from Bontly in Milwaukee County on 2 May. The only significant total of individuals was 20, coming again from Thiessen in Rock County on 20 May.

Hermit Thrush—Ashman in Dane and O'Connor in Milwaukee Counties reported the only BOP individuals—in fact, the only March reports at all, as the first returning migrants weren't reported until 5 April, when they appeared in Racine, Waukesha, and Milwaukee Counties. Kavanagh had 23 individuals in Florence County on 7 May. Reported in Milwaukee County until 19 May (O'Connor). Reports were received from 28 counties.

Wood Thrush—Simultaneous arrivals on 1 May in Iowa, Milwaukee, Ozaukee, and Calumet Counties. Belter counted 27 individuals in Marathon County on 27 May. Reports were filed from 29 counties.

American Robin—Reported as present at BOP in about a dozen counties, with a total of 250 individuals reported from Dane County (Stutz) on 12 March.

Varied Thrush—Two winter feeder birds were last reported on 4 March in Winnebago County (Knispel) and on 22 March in Bayfield County (Brady).

Gray Catbird—Arrived on 21 April in Outagamie County (Tessen), with two further reports (Manitowoc and Green Lake Counties) before the end of the month. Stutz found 20 individuals in Sauk County on 20 May.

Northern Mockingbird—Reports were received from Dane, Racine, Ozaukee, Marathon, Marinette, Bayfield, and Douglas Counties, none of them before mid-April. Note also the relative bias towards northern counties.

Brown Thrasher—This is a species which generally announces its arrival in no uncertain terms, so it isn't surprising that 17 of the eventual 38 first county reports were registered in the fairly narrow window of 10–19 April. Columbia (Dischler), Racine (Fare), and Milwaukee (Bontly) County individuals were the 10 April arrivals. Brady counted 23 birds in Ashland/Bayfield Counties on 22 May.

American Pipit—Sporadic reports of individuals during the winter season continued with a 6 March sighting of 2 individuals in Racine County (Pugh) and a report of 3 individuals in Rock County on 11 March (Klubertanz). After that, there was no further mention until 18 April, when Brady reported it in Ashland/Bay-field Counties. The other 7 county sightings all came in May, the last in Door County on 22 May (Lukes).

Bohemian Waxwing—Reports were received of 3 flocks, totaling 22, 60, and 475 individuals, in Florence (27 March, Kavanagh), Marathon (30 March, Belter), and Ashland/Bayfield (30 March, Brady) Counties respectively.

Cedar Waxwing—By far the largest flock reported came from Frank in Milwaukee County, where he estimated 440 individuals were present on 13 April.

Blue-winged Warbler—Arrived in Sauk County on 26 April (A. Holschbach); Stutz counted 20 individuals there on 20 May for the seasonal high. Twenty-seven counties were represented, with Burnett, Lincoln, and Door Counties the most northerly among them.

Golden-winged Warbler—Hess ran into an absurdly early migrant in Dane County on 8 April; her report was accepted as the earliest on record (by a full 16 days!) for this species. The next individual was detected on the more normal date of 1 May, also in Dane County (Evanson). Belter counted 25 individuals in Marathon County on 27 May. Reports came in from 30 counties statewide.

Blue-winged × *Golden-winged Warbler*— Belter reported a "Brewster's" type in Marathon County on 4 May, A. Holschbach a "Lawrence's" type in Iowa County on 10 May.

Tennessee Warbler—McDowell's Dane County sighting on 21 April came very close to matching the all-time earliest arrival [20 April 1980]. Stutz had 20 individuals in that county on 12 May. Reported from 30 counties.

Orange-crowned Warbler—First seen in Waukesha County on 20 April (Gustafson). Tessen reported 6 in Brown County on 10 May. Reported from 20 counties, with only St. Croix and Douglas Counties among them representing the northwestern quarter of the state.

Nashville Warbler—Arrived on 22 April in Manitowoc County (J. Holschbach). Kavanagh had an outstanding count of 77 individuals in Florence County on 18 May. Reported from 36 counties.

Northern Parula—Showed up in Sauk (A. Holschbach) and Dane (Heikkinen & Unson) Counties on 2 May, the first of an eventual 29 county reports.

Yellow Warbler—Simultaneous arrival on 22 April in Green (Evanson), Dane (Ashman), and Winnebago (Ziebell) Counties. Ziebell counted no fewer than 180 individuals in Winnebago County on 13 May!

Chestnut-sided Warbler—Made its first appearance in Rock County on 2 May (Klubertanz). Kavanagh had a healthy number (47 individuals) in Florence County on 30 May.

Magnolia Warbler—Arrived on 2 May in Winnebago (Tessen) and Door (Lukes) Counties. Frank had 11 in Ozaukee County on 18 May. Reported present in 26 counties. [Fig. 1]

Cape May Warbler—First reported on 7 May in Dane (Stutz), Walworth (Jacyna), Milwaukee (Bontly), and Winnebago (Bruce) Counties. In Lincoln and Langlade Counties on 28 May (Evanson). Reports came in from 25 counties.

Black-throated Blue Warbler—Winnebago County (1 May, Tessen) was the first of 14 reporting counties, all of them but Iowa and Dane Counties in a rough crescent running from Kenosha County north to Florence County and then west to Ashland/Bayfield Counties. Unusually, Frank had 5 individuals in Ozaukee County on 10 May, while Brady counted 11 in Iron County on 31 May. Yellow-rumped Warbler—The only indications of possible overwintering came in the form of 11 March Kenosha County (Hoffmann) and 19 March Jefferson County (Hale) reports. The next report, on 27 March, was of the "Audubon's" form [see next account]. The bulk of the first arrivals then followed, beginning with a Richland County report on 3 April (Duerksen). Prolific counts included 255 individuals in St. Croix County on 29 April (Persico) and 425 birds on 1 May in Calumet County (Tessen). Last reported in Rock, Jefferson, and Milwaukee Counties on 20 May, and in Dane County on 24 May (Martin).

"Audubon's" Yellow-rumped Warbler Reported for the third spring in a row, a Milwaukee County arrival found by Lubahn on 27 March [photograph] and again by Gustafson on 29 March.

Black-throated Green Warbler—The earliest report was filed on 26 April from Sauk County (A. Holschbach). Four more county firsts were registered before month's end. Kavanagh reported 20 individuals in Florence County on 9 May. Seen in Waukesha County until 24 May (Gustafson).

Blackburnian Warbler—Six county arrivals reported from 2–4 May, the first from Fare in Racine County on 2 May. Six individuals were reported twice, first in Racine County on 13 May (Pugh) and then in Dane County on 22 May (Ashman). Reported from 25 counties.

Yellow-throated Warbler—Vidas documented the second earliest arrival on record, an individual landing in Dane County on 13 April. The other two reports referred to the Grant County population (Tessen, 23 May and M. Peterson, 26 May).

Pine Warbler—First noted in Sauk County on 13 April (Tessen). Reached Dane, La Crosse, St. Croix, Marathon, and Door Counties the next two days. Kavanagh had the high count of 15 in Florence County on 24 April. Again noted in Sauk County by Tessen on 23 May. On territory in Waukesha County at EOP (Gustafson).

Prairie Warbler—An individual was observed in Sheboygan County on 29 May (Tessen) for the sole report.

Palm Warbler—Made its first appearances in Kenosha County on 13 April (Hoffmann) and in Racine County on 18 April (Fare). Belter tallied 50 in Marathon County on 5 May. He last noted it there on 12 May. Persico had the last in St. Croix County on 20 May. [Fig. 2] **Bay-breasted Warbler**—Reported from only 15 counties, down significantly from 24 the year before. The earliest date received was 3 May (Milwaukee County, Bontly). Stutz had 5 individuals on 12 May in Dane County, where he observed the species until 24 May. Absent from southwestern county reports.

Blackpoll Warbler—Three initial reports on 8 May, from La Crosse, Dane, and Milwaukee Counties. The number of reporting counties (16) was down significantly from the year before (30). All portions of the state however were represented. Ashman could muster a high of only 4, in Dane County on 15 May.

Cerulean Warbler—Marathon County and 10 southern counties filed reports, the earliest coming on 1 May in Dane County (Thiessen). Stutz counted an encouraging 25 individuals in Grant County on 14 May.

Black-and-white Warbler—Hoffmann reported 6 individuals already in Kenosha County on 13 April, with the next sighting coming from Domagalski in Washington County on 21 April. Kavanagh saw 12 individuals in Florence County on 9 May. Reported in 37 counties.

American Redstart—Ziebell's 2 May Winnebago County date was the earliest. Arrived in Dane, Racine, Sheboygan, and Outagamie Counties the next two days. Twenty individuals were reported three times, from Grant, Sauk, and Marathon Counties.

Prothonotary Warbler—Appeared in a belt of 8 counties, from Racine County west to Grant County and then north to Pierce County, beginning on 4 May in Iowa County (A. Holschbach). An outlying ninth county report came from Mosquito Hill Nature Center in Outagamie County, where it was observed from 13 May until EOP.

Worm-eating Warbler—Bruce found his first individual in Winnebago County in 28 years on 5 May. The more expected Sauk County reports came on 6 May (Tessen) and on 20 May (Prestby).

Ovenbird—Detected first in Waukesha (Gustafson) and Green Lake (Tessen) Counties on 29 April. A sighting in Iowa County the next day (A. Holschbach) completed the April reports. Brady counted a healthy number [102] in Ashland/Bayfield Counties on 22 May.

Northern Waterthrush—The first sighting occurred at the Mosquito Hill Nature Center in Outagamie County on 22 April, with 7 more counties added before the end of the month. Kavanagh reported 10 individuals in Florence County on 9 May.

Louisiana Waterthrush—An earlyish first arrival date of 9 April (Grant County, Stutz). Subsequently recorded in 4 more southwestern counties, with Stutz supplying a total of 6 individuals in Sauk County on 29 May. Present in Waukesha County (Gustafson) from 20 April until 24 May. Also appeared in Winnebago County (15 May, Bruce) and, quite unexpectedly, in Bayfield County (2 May, Bruhnke).

Kentucky Warbler—There are only two April records, so a Dane County arrival on 1 May (Karlson) was significantly early. Kenosha and Grant Counties also featured sightings, with a significantly out-of-range appearance in Bayfield County on 24 May (J. Holschbach) completing the season's reports.

Connecticut Warbler—Arrived on 12 May in Dane (Stutz) and in Winnebago (Ziebell) Counties. Migrants appeared in 6 more southern counties through at least 26 May, while migrants and/or returning residents were spotted in Price, Oneida, and Douglas Counties. Wood had 7 individuals on territory in the latter county on 27 May.

Mourning Warbler—Heikkinen & Unson saw the earliest one on 8 May in Dane County. Kavanagh reported 13 in Florence County on 30 May. Reported in 22 counties.

Common Yellowthroat—Pugh established the second earliest arrival date ever with the discovery of an individual in Iowa County on 13 April [9 April 1953 being the record]. The next individual seen was also in Iowa County, on 29 April (A. Holschbach). Ziebell arrived at the maximum number by counting 161 individuals in Winnebago County on 13 May.

Hooded Warbler—After a respite last year, the "gap" in first arrival dates created by the extraordinary 27 March–8 April 1950 fallout was narrowed again, with an individual found on 14 April in Dane County besting the 17 April 2004 date by 3 days (J. Peterson). Four individuals were found in Sauk County on 20 May (Prestby). A cluster of 4 northeastern counties (Winnebago, Calumet, Brown, and Door Counties) complemented 8 southern reporting counties in the seasonal distribution.

Wilson's Warbler—A quite late first arrival date of only 9 May, with appearances that day in Dane (Stutz) and Door (Lukes) Counties. Ashman had 4 in Dane County on 22 May. A very disappointing showing for this species, with only 17 reporting counties.

Canada Warbler—First arrival in Dane County on 9 May (Evanson). Brady had 11 individuals in Iron County on 25 May. Appeared in 20 counties.

Common Yellowthroat × **Canada Warbler**—Bruce gave the following description of a bird he encountered on 23 May: "The next in weird warbler hybrids? It sang a 'witchity' followed by a rapid warble and a chip. It had an incomplete Yellowthroat 'mask' and a noticeable Canada Warbler 'necklace,' and I coincidentally had just seen a Canada Warbler minutes beforehand."

Yellow-breasted Chat—The first of 3 reports came from Fare in Racine County on 3 May. Bontly followed a Milwaukee County individual from 8 May to EOP. Finally, Stutz filed a Dane County report on 27 May.

Summer Tanager—An adult male was reported by Stutz and Thiessen in Dane County on 4 May. A photogenic adult male was present in Bayfield County from 12–18 May (Brady). Finally, Cutright reported a female in Ozaukee County on 29 May, the latest spring date on record (there are, however, 3 summer reports).

Scarlet Tanager—Gagliardi reported the second earliest arrival ever, a male that flew in front of her car on 16 April in Sawyer County [13 April 1974 is the record]. Did not appear again until 3 May, when Stutz reported his first of the year in Dane County. He had 15 individuals there on 12 May, while 7 of Ashman's 14 birds in the same county on 15 May were all in one oak tree! Thiessen also submitted a count of 15 individuals, in Rock County on 20 May.

Western Tanager—Mooney had this season's only documented report, a male in Milwaukee County on 16 May.

Eastern Towhee—Reports on 6 March in Rock County (Klubertanz) and on 11 March in Kenosha County (Hoffmann) presumably referred to overwintering birds. The next report came on 31 March from Door County (Lukes). Brady counted 20 individuals on 22 May in Ashland/Bayfield Counties.

American Tree Sparrow—Last reported on 13 May in Dodge County (Prestby). Belter had 150 individuals in Marathon County on 1 April. Also reported in early May in Marinette and Door Counties. **Chipping Sparrow**—Arrived in Iowa County on 25 March (A. Holschbach). Hoffmann was up to 16 individuals by 31 March, in Kenosha County. The high count came in Florence County, where Kavanagh had 98 birds on 9 May.

Clay-colored Sparrow—Arrived on 15 April in St. Croix County (Persico). Double digit counts came only from more northern counties, with Brady's report of 36 in Ashland/Bayfield Counties on 22 May the highest total received.

Field Sparrow—Premigration sightings came from Rock (10 March, Klubertanz) and Columbia (15 March, Dischler) Counties. The remaining reports began with a Grant County sighting on 31 March (Romano). Tessen reported 10 individuals in Sauk County on 13 April.

Vesper Sparrow—Arrivals on 6 April in Dane (Thiessen) and Ozaukee (Frank) Counties. Arrived in Marinette County on 14 April, with 20 individuals present 5 days later (Kavanagh). Appeared in 29 counties statewide.

Lark Sparrow—A. Holschbach established the second earliest arrival date ever with a sighting in Sauk County on 11 April, just two days shy of the record [9 April 1988, also in Sauk County]. Other sightings included birds in Dane, Pierce, and Burnett Counties and most notably in Bayfield County, where Brady photographed an individual on 4 May and then again on 13–14 May. The high count from the Sauk County colony was 14, noted on 6 May (Tessen).

Lark Bunting—An adult male was found and photographed (Fig. 8) by Jack, Cathy, and Johnny Kaspar at Thunder Marsh in Oneida County on 28 May as they were returning home from the WSO convention.

Savannah Sparrow—A Domagalski report on 17 March in Dodge County ties for third earliest. The next report did not come until 9 April, when Ashman found it in Dane County. Brady had 80 individuals in Ashland/Bayfield Counties on 18 April.

Grasshopper Sparrow—Arrived on 20 April in Waukesha County (Gustafson). A. Holschbach counted 17 individuals in Sauk County on 10 May. Reported in 14 counties.

Henslow's Sparrow—Arrived with the previous species on 20 April in Waukesha County (Gustafson). Romano had a high of 11

individuals in Grant County on 23 April. Reported in 11 counties.

Le Conte's Sparrow—Korducki's discovery of an individual in Milwaukee County on 1 April makes for the second earliest arrival ever, behind a 29 March 1981 sighting, also in Milwaukee County. Found in May in Marathon, Oncida, Ashland/Bayfield, and Douglas Counties.

Nelson's Sharp-tailed Sparrow—Found in Burnett County on 24/25 May (Cutright/ Tessen).

Fox Sparrow—BOP or very early March reports in Dane, Milwaukee, Sheboygan, Manitowoc, and Outagamie Counties. Five more counties had initial reports later in the month. Prestby had 40 in Dodge County on 1 April. Late departure dates included 21 April in Outagamie County (Mosquito Hill Nature Center) and 28 April in Door County (Lukes). Found in 32 counties.

Song Sparrow—Present at BOP in Dane, Waukesha, Kenosha, Milwaukee, Manitowoc, and Winnebago Counties. Arrived in Marathon County on 26 March, with 100 individuals present there by 15 April (Belter). The arrival date in Florence County was 29 March, with Kavanagh counting 71 birds there on 12 April.

Lincoln's Sparrow—No April arrival dates, with an individual on 1 May in Milwaukee County (Frank) the earliest submitted report. A count of 4 individuals was achieved three times, in Dane, Racine, and Douglas Counties. Last seen in Dane and Milwaukee Counties on 19 May. Found in 21 counties.

Swamp Sparrow—Present at BOP in Dane (Ashman) and Winnebago (Ziebell) Counties. Three other reports were scattered throughout the rest of March. Ziebell counted an incredible 366 individuals in Winnebago County on 13 May.

White-throated Sparrow—Reports at or near BOP in Green, Dane, Rock, Walworth, Ozaukee, Manitowoc, and Winnebago Counties. Persico had 340 in St. Croix County on 29 April. Departed Richland County on 8 May (Duerksen) and Manitowoc County on 29 May (J. Holschbach).

Harris's Sparrow—Appeared in Grant County and in 4 northwestern counties. Paruk found an individual at a feeder in Ashland County on 29 March. Migrants returned on 7 May (Grant County, Kearns and Douglas County, LaValleys). Haseleu had the latest report, 25 May in Washburn County.

White-crowned Sparrow—The Lukes (Door County) had the earliest [6 April] and the latest [27 May] reports. The second earliest report did not come until 21 April (St. Croix County, Persico). Tessen found 20 individuals in Manitowoc County on 10 May.

Dark-eyed Junco—Brady counted 130 individuals in Ashland/Bayfield Counties on 6 April. The latest departure dates for southern counties was 8 May (Sheboygan County, Brassers).

"Oregon" Dark-eyed Junco—An individual of this race was noted by the Smiths in Oconto County from 2–5 April.

Lapland Longspur—Found in 18 counties from all portions of the state. Flocks between 100 and 200 or so individuals were reported (in chronological order) on 24 March (Grant County), on 1 April (Dodge and St. Croix Counties), and on 15 April (Manitowoc County). Last noted on 22 April in Ashland/Bayfield Counties (Brady).

Snow Bunting—Reports came in from 11 counties around the state, with the largest flock [300 individuals] encountered right on 1 March in Outagamie County (Tessen). Found until 10 April in Ashland/Bayfield Counties (Brady).

Rose-breasted Grosbeak—A Dischler 28 April Columbia County report was followed by 5 and 2 county firsts respectively the next two days. The high count came on 30 May, when Kavanagh noted 41 individuals in Florence County.

Indigo Bunting—Arrived on 1 May in Winnebago County (Bruce). Stutz had 15 in Sauk County on 20 May, followed by a count of 58 in Florence County on 30 May (Kavanagh).

Dickcissel—One of the biggest springs for this species in recent memory, with reports from no fewer than 10 counties. A Rock County report (Yoerger) on 13 May was considerably ahead of the others, all of which came in the period 26–31 May. M. Peterson noted 8 individuals in Shawano County on 31 May.

Bobolink—Appeared on 30 April in Iowa County (A. Holschbach). Ziebell counted 58 individuals in Winnebago County on 13 May. Noted in 40 counties.

Red-winged Blackbird—Already present at BOP in Richland, Dane, Racine, Waukesha, Milwaukee, and Oconto Counties. Prestby and Stutz provided estimates of 10,000 and 5,000 individuals respectively at a Dane County roost in mid-March. Reached Ashland/Bayfield Counties on 14 March and Douglas County on 27 March.

Eastern Meadowlark—A Racine County report on 6 March (Pugh) was the earliest received. At least 9 (!) counties had first reports on 11 March (a Saturday, perhaps not coincidentally). Frank encountered 25 individuals in Ozaukee County on 13 April for the high.

Western Meadowlark—First seen in Walworth County on 8 March (Jacyna). Only Columbia and Racine Counties had been added by the end of the month. Fifteen more counties were eventually represented in the count, which was well distributed throughout the state. No observers submitted counts of individuals.

Yellow-headed Blackbird—Tessen recorded the season's first in Outagamie County on 11 April. Stutz tallied 40 individuals in Dodge County on 13 May. Appeared in 13 counties. With the exception of Burnett County, all lay more or less to the southeast of a line from Rock to Marathon to Door Counties.

Rusty Blackbird—Reports came in from an encouraging 26 counties, including a BOP report from Waukesha County (Gustafson) and a 4 March report from Green County (Yoerger). A total of 100 individuals was reached in Dane County on 19 March (Stutz). Last reported on 13 May in Door County (Lukes).

Brewer's Blackbird—An individual was found in Dodge County as early as 4 March (Tessen). Reached Kenosha, Racine, and Jefferson Counties by 11 March. Kavanagh noted 37 individuals in Florence County on 9 May. Found mostly in eastern and central counties (25 in all).

Common Grackle—Richland (Duerksen) and Kenosha (Hoffmann) Counties had BOP reports. Stutz noted the first on a Dane County report on 4 March and estimated 5,000 individuals present there two weeks later. Reached Douglas County on 28 March (LaValleys).

Brown-headed Cowbird—Present at BOP in Dane (Prestby), Waukesha (Gustafson), and Milwaukee (Prestby) Counties. Next recorded on 4 March in Dodge County (Tessen). Reached Ashland/Bayfield Counties on 30 March (Brady). Frank had 46 individuals in Ozaukee County on 6 April. **Orchard Oriole**—First reported on 4 May in Dane County (Stutz). Tessen had 4 individuals in Iowa County on 23 May. Recorded in 19 counties as far north as St. Croix, Portage, Oconto, and Door Counties.

Bullock's Oriole—An adult male appeared for one day [3 May] in Milwaukee County and was documented by Lubahn for only the state's third record.

Baltimore Oriole—Recorded in Door County on 28 April (Lukes), in Racine County on 29 April (Fare), and in Dane County on 30 April (Ashman). The maximum number given was 25, in Sauk County on 20 May (Stutz).

Pine Grosbeak—Appeared in Douglas, Ashland/Bayfield, and Door Counties as might be expected, but a Milwaukee County individual on 12 April (documented by Mooney) was significantly out of range. Brady reported 12 individuals in Ashland/Bayfield Counties on 6 March.

Purple Finch—Appeared throughout the season in 28 counties throughout the state. High count honors went to Ashland/Bayfield Counties, where Brady had 35 individuals on 5 April. Departure dates in more southerly counties included 13 May in Dodge County (Tessen) and 14 May in Green County (Evanson).

Red Crossbill—Wood reported 6 individuals in Forest County on 12 March. Kavanagh had the same number in Florence County on 1 April. Then Brady reported 20 in Ashland/Bayfield Counties on 22 May. Finally, Tessen reported 4 more in Forest County on 27 May.

White-winged Crossbill—Almost escaped mention for the season, but finally A. Holschbach noted 2 individuals in Forest County on 26 May.

Common Redpoll—Kavanagh noted 6 individuals in Florence County on 3 March. More were present in Burnett (McInroy) and Douglas (LaValleys) Counties on 28 March. Brady had 20 in Ashland/Bayfield Counties the next day, and he gave 8 April as the departure date there to conclude the season's reporting.

Pine Siskin—Seen all season throughout the state (22 counties). Kavanagh recorded a high of 12 individuals in Florence County, where she noted them TTP, on 18 March. Characteristically for this nomadic species, a single individual made a single appearance at Hale's Jefferson County feeder on 22 May, her only sighting for the entire season. **Evening Grosbeak**—Found in Douglas, Ashland/Bayfield, Florence, Marinette, Door, and Shawano Counties. Kavanagh's 108 individuals in Florence County on 3 March far eclipsed all other totals given.

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50 Years Ago in The Passenger Pigeon

The lead article in the issue, authored by Owen Gromme, is titled An Open Report on the Current Status of Horicon Marsh as a Waterfowl Refuge. He provides some history of its pre-drainage and drainage days. "Then came the despoilers of the land and enormous dredges reduced this once immense wildlife paradise to a barren and parched waste. A new generation was born and became accustomed to the sight and acrid smell of this smoldering and now good-for-nothing piece of land known as Horicon Marsh." He recounts the re-flooding of the marsh, and then vividly describes a major water drawdown that occurred without apparent reason in 1956 that continued into 1957. Gromme concludes the paper by running through a number of possible reasons for the drawdown but without resolving the issue. He notes that his thoughts are the culmination of careful consideration of facts as observed and noted on Horicon Marsh for over 40 years.

In the *By The Wayside*... column, which still lives today in *The Passenger Pigeon*, several interesting sightings are recounted, including a Prairie Warbler in Door County, ravens nesting in February on a railroad bridge over the Bad River in Iron County, a visit with a goshawk near the Pine River in Forest County, Blue Grosbeaks in Madison, a Baird's Sparrow at Crex Meadows, and an avocet at Peshtigo Harbor. Dr. Charles Kemper relates how he was able to band 23 chickadees and Red-breasted Nuthatches in an hour inside a cabin in Bayfield County. The cabin owner simply opened his cabin window and blew a horn and the birds responded by flying into the cabin. As Kemper states, "It will be a long time before I forget the unique experience of trapping birds by enticing them into the house with a horn."

Excerpt from Vol. 19 (1), 1957 by WSO Historian Noel J. Cutright, 3352 Knollwood Road, West Bend, WI 53095. h. 262 .675. 2443, w. 262. 268. 3617, noel.cutright@we-energies.com.



White-crowned Sparrow by Tom Prestby.

"By the Wayside"—Spring 2006

Documentation for rare species includes Eurasian Wigeon, Cinnamon Teal, Glossy Ibis, White-faced Ibis, Wilson's Plover, Black-necked Stilt, Glaucous-winged Gull, Black-legged Kittiwake, Band-tailed Pigeon, Scissor-tailed Flycatcher, Yellow-throated Warbler, Western Tanager, Bullock's Oriole, and Pine Grosbeak.

EURASIAN WIGEON (Anas penelope)

29 March, 2006, McFarland, Dane County-This bird was observed on Lower Mud Lake on an overcast morning for about twenty minutes, using both binoculars and a spotting scope. Steve Thiessen had found the bird early in the morning and posted a message to the WisconsinBirdNet. Since I was on spring break, I was able to zip over and search for the bird. Upon arriving at the viewing area, I met Pat Ready and we set about looking for it among the large numbers of waterfowl present. Pat found the bird first, associating with Northern Shovelers, Gadwalls, and Ring-necked Ducks. Its red-orange head made it stand out from the other ducks nearby. I snapped a few pictures and studied the bird for only a few minutes before a Bald Eagle flew over, causing most of the ducks, including the wigeon, to take flight. Before it left, I was able to see a duck with a red-orange head and blue bill with a dark tip. The bird had

a black tail, upper and undertail coverts, gray upperparts and flanks, a buffy breast with a hint of peach/pink tones and a white femoral tract. The buffy/yellow forehead patch was at times difficult to observe, but it was seen during the few brief moments when the bird was positioned perfectly. It was too distant to hear any vocalizations, but it was behaving like a typical dabbling duck—swimming in a small bay and occasionally submerging the front half of its body beneath the water in search of food.—*Aaron Stutz, Madison, WI.*

CINNAMON TEAL (Anas cyanoptera)

7 May 2006, Jay Road, Ozaukee County—I received a call that Tom Uttech had found another good duck [he had found a Eurasian Wigeon earlier], a male Cinnamon Teal, along Jay Road in a flooded field. Again, throwing the equipment in my vehicle, I raced down. When I arrived, Steve Lubahn was parked there. I could not immediately find it and asked him where it was. I was shocked to find out it was practically alongside the road! For the next half hour it alternately fed and rested in the field. It was too close for a scope. Most obvious was the cinnamon head, neck, and underparts. The back was a mix of cinnamon and blue. The blue wing patch was also seen.—Daryl Tessen, Appleton, WI.

GLOSSY IBIS (Plegadis falcinellus)

13 May 2006, Horicon Marsh, Dodge County-After helping lead hikes for the Horicon Birding Festival, I pulled into the parking lot at the DNR building and was informed that some birders had a Glossy Ibis in their scopes. I took a quick look and then set my scope up to study the bird. Even though the weather was not good, I could make out critical field marks. The bird was about the size of a Snowy Egret, larger than a Green but much smaller than a Great Blue Heron. The neck and part of the back were brownish, as well as the belly and legs. Part of the back and the wings were forest green. Even though the sun wasn't out, when the light hit the bird right the wings appeared glossy and quite colorful. The bird had a long thin neck and a long decurved bill. The face was all dark, including the eye, except for a white lining between the base of the bill and the face. White-faced Ibis was ruled out because no red was present at the base of the bill. The eye was dark, not red. The overall glossy coloration ruled out a juvenile plegadis ibis that hasn't come into adult plumage.—Tom Prestby, Wauwatosa, WI.

WHITE-FACED IBIS (*Plegadis chihi*)

5 May 2006, Wyalusing, Grant County-I observed two individuals at midday for approximately 15 minutes at a distance of about 300 feet using a spotting scope under good viewing conditions. Overall they were dark birds with long legs and long downward curved bills. They were considerably smaller than a nearby Great Egret but noticeably larger than a nearby Greater Yellowlegs. The wings and tails were very dark, almost black. The rest of the bodies and the legs appeared to be a very dark red with little contrast to the wings. The bills also appeared to be dark in color. The most striking features were the bright red faces bordered by white lines that went from the upper bills around the red eyes and down to the lower bills. No vocalizations were heard. The two birds were feeding by probing the mud in the middle of a shallow backwater pond. Both birds stayed close to each other.-Maureen Gross, Mukwonago, WI.

WILSON'S PLOVER (Charadrius wilsonia)

13–15 May 2006, Chequamegon Bay, Bayfield County—As I scanned the mouth of Whittlesey Creek during a routine check for shorebirds, I was pleased to see a small group of 7 Semipalmated Plovers. Among them, I immediately noticed a slightly larger plover with lighter brown back, duller legs, larger, all-black bill, and browner breast band. My heart began racing as I knew I had a Wilson's Plover, unquestionably the best bird I've ever found

in the area. Over the course of the next three days, I spent at least nine hours watching and photographing the bird as it fed on sandbars along the shore. As mentioned, the bird had a lighter brown back than the Semipalmated Plovers, but still considerably darker than would be expected of a Piping Plover. No wing bars were present. The undersides were also unmarked and entirely white except for a brown breast band that was thick on the sides and thinned in the center of the upper breast. The band appeared to be bordered by a thin black line on its upper edge, but this may have resulted from multiple brown feathers overlapping each other. The bill was relatively long, thick, and all black, showing a slight upturn on its outer half. The crown and cheek were brown like the back, while the white throat extended around the nape, forming a complete pale collar. The bird had a whitish forehead and broad white supercilium. The legs were dull flesh-colored. pinkish to These plumage features suggest an adult female Wilson's Plover. It picked invertebrates off the surface of the sandbar as other plovers would. Occasionally it lay down and tried to sleep. Initially it associated with the Semipalmated Plovers, which it occasionally chased away from feeding areas, but later it turned solitary.-Ryan Brady, Ashland, WI.

BLACK-NECKED STILT (*Himantopus mexicanus*)

16 April 2006, Chequamegon Bay, Bayfield County—I noted a distinctly longlegged shorebird foraging on the sandbars/mudflats. Legs were solid

red. Body was more slender than American Avocet, but still had a long, thin neck. The bird had a distinct red eye, with a small patch of white over it. The face was white with a black mask that started at the top of the head and covered up the eye region in black. The bill was black, long, and very thin. The undertail coverts and belly were white. Its neck was white in the front and black in the back. The majority of the neck was white, and the black in the back of the neck connected to the bird's head. When the bird was at rest, the wings looked all black except for a small, rounded white region near the lower center of the folded wings. When the bird flew, the red legs trailed behind the body, but without drooping. The bird fed with a pecking motion, not with the back and forth swinging motion of an avocet.-Erik Bruhnke, Ashland, WI.

16 April 2006, Chequamegon Bay, Bayfield County—This bird was a tall, strikingly black and white long-billed shorebird. The pink legs seemed very long in relation to the body size. The body was smaller than that of a nearby Greater Yellowlegs, but overall this bird was taller. The straight black, thin beak appeared to be about twice the length of the head. The head was marked by a white spot above the eye. The upper sides of the face and the back of the head extending down the back of the neck onto the back and tail were unbroken black. The lower part of the face, including an area completely around and above the beak, the front and sides of the neck, and the breast and lower body, were unmarked clean white. The white color extended more toward the back of the bird between the base of the neck and front of the wing and between the rear of the wing and the tail. The upper tail was solid black and the lower rump area was a clean white. The bird was feeding vigorously along the edge of the water and higher up on the sand bar. Only a few times did it actually go into the water. The bird moved along nearly nonstop to the end of the sand bar and then returned along the same edge it had just covered. As the bird moved along, it would pick at whatever it was feeding on, not probing with its beak as some other shorebirds do.—*Tim Oksiuta, Ashland, WI*.

GLAUCOUS-WINGED GULL (Larus glaucescens)

21-24 March 2006, La Crosse, La Crosse County-I added another species to the list of unusual gulls [Iceland, Lesser Black-backed, and Glaucous] seen in La Crosse over the past week. On the afternoon of 21 March, I found a third year Glaucous-winged Gull among the gulls on Richmond Bay. I was checking on the gulls and eagles that were eating fish on the ice just east of the boat landing when I spotted a large, dark-eyed gull with light (not white) wingtips. It was slightly larger than nearby Herring Gulls, with a slightly mottled head and a bill still featuring the dark smudge that marks it as a third year bird. Unlike the Glaucous Gull that was seen in the same area the previous week, this bird had gray edges and tips on its primaries. I took lots of pictures and posted them in the Rare Birds Album on my Community Webshots page.-Dan Jackson, Chaseburg, WI.

BLACK-LEGGED KITTIWAKE (Rissa tridactyla)

10 May 2006, Harrington Beach State Park, Ozaukee County—While watching numerous gulls wheeling around offshore, I noticed an approaching gull with a distinctive "labored" flight. As it flew even with me, I noted its size was just a little smaller than adjacent Ringbilled Gulls and noticeably larger than the numerous Bonaparte's Gulls. Its more floppy flight may have been due to feather wear. Most diagnostic was the wing pattern. The forward edge of the primaries was a charcoal gray color (first three or four primaries from carpal joint to wingtip). From the carpal joint to the inner edge of the wing, the dark gray extended toward the trailing wing edge, forming a wide "M" across both wings. The trailing edge of the wing behind this dark band was white, while the fore edge of the inner wing (lesser coverts) was pale gray, like the mantle. Underwings were virtually all white. The head and body were white. The bill was pale, darker towards the tip, and intermediate in length and thickness between that of the two species mentioned above. Eyes appeared dark. Feet were not seen. I didn't think to check for a darker nape in time, but if it was darker, it was not readily apparent (wear?). The tail was more squared off than other gulls (like Sharp-shinned compared to Cooper's Hawk) and was white with only a little row of spots at the terminal edge (again due to wear?). A first summer bird, in other words. It flew south along the shore, making several circles back north, before finally moving south out of sight.—Dennis Gustafson, Muskego, WI.

BAND-TAILED PIGEON (Patagioenas fasciata)

9 April 2006, Roberts, St. Croix County-At a brief first glance, this bird resembled the Rock Pigeon. However, it was an inch or two longer, with pale gravish-pink breast, grav back and wings, a collar of white on the hind neck above an area of iridescent greenish-black feathers, a yellow bill with black tip, and yellow toes. One toe appeared to be damaged and partly missing. The tail was long and rounded with a lighter gray band at the end. It flew into the yard, landed in a tree, and sat for a while before dropping to the ground to feed (after the squirrel had departed). It also visited the bird bath and sat in several different trees while we were there.-Marilyn Bontly, Bayside, WI.

SCISSOR-TAILED FLYCATCHER (Tyrannus forticatus)

17 May 2006, Moose Junction, Douglas County-I was driving on Highway 35 when a bird with a long tail caught my eye on the electric wires. I stopped as quickly as I could and jumped out with binoculars in hand. The bird took flight. In flight, it had a heavy "front end" appearance with a long tail that the wind separated, splitting the "scissors" with one up and one down to unique effect. The head was gravish with a dark line through the eye. The key was the salmon pink underwings. The tail was twice as long as the body and black tipped. Within seconds it disappeared over the trees to the east.—Randy Hoffman, Waunakee, WI.

Yellow-throated Warbler (Dendroica dominica)

13 April 2006, Madison, Dane County—The bird was in a tall tree at the edge of a clearing at Picnic Point. It was about 125 feet away initially. Even at this distance, the bright yellow throat bordered by dark black was distinctive. As I moved closer I noticed the clean break between the yellow throat and the light, clean underside. Some black streaking was noted on the flanks. This streaking was by no means fine, but did show definite contrast with the otherwise white flanks. At most, there were two streaks on any given section of the flanks. Up until this point, I was mostly viewing the bird from below. I slowly climbed up the opposite hill for a better view. The white wingbars stood out, as well as the very dark triangular patch in the face. I was also struck by the evenness of color tone from the top of the head to the flight feathers. The overall impression was one of great contrast, with no blending of visual features. I was able to watch this bird for about fifteen minutes before it flew away. It spent all of its time in the top half of the tree, feeding meticulously but quickly, spending about 7-10 seconds on average on any given branch. One time, it did dart out to try to catch a flying insect, unsuccessfully.-Jason Vidas, Madison, WI.

Western Tanager (Piranga ludoviciana)

16 May 2006, Milwaukee, Milwaukee County—This bird caught my eye because of its predominant yellow color. Upon closer examination it showed brightest yellow from the throat

through the breast and belly to the undertail coverts. The upper head was a greenish yellow and the eyes were dark. Wings and tail were dark and there were distinct wingbars. There was bright red surrounding the base of the bill. It was larger than a warbler, with a much heavier bill. The bill was shorter than that of an Orchard Oriole, which I saw a few minutes later. It fed in the outer tips of the branches of a deciduous tree, occasionally fluttering to another branch tip to continue feeding. It moved in and out of leaf cover, at times into clear bright sunlight, and gave me both side and front views.—Jym Mooney, Milwaukee, WI.

BULLOCK'S ORIOLE (Icterus bullockii)

3 May 2006, Milwaukee, Milwaukee County-I was in Lake Park scanning the upper canopy for warblers etc. when I came upon this unusual oriole. I have never seen a Bullock's Oriole before, but I was immediately struck by a facial pattern that was completely different from a Baltimore Oriole's. Specifically, the cheek was bright orange with a dark line running from the lore to the nape, giving the bird an orange eyebrow. The cap was black down to the upper back and the throat was black as well. The bill was rather long and narrowed to a point. The remainder of the lower body was the same bright cadmium orange, not yellowish or dark chestnut. The tail was rather long and the bird had the size and shape of a Baltimore Oriole. I first noticed the facial pattern, throat and belly, but the wing pattern remained concealed until moments later, when the bird turned and offered a full view of the wing. The upper wing

showed a rather large patch of white on the shoulder (greater wing coverts), contrasting with the black secondaries and primaries. The sun was at my back and the light was optimal. I observed the oriole until it disappeared behind another tree.—*Steve Lubahn, Milwaukee, WI.*

PINE GROSBEAK (Pinicola enucleator)

12 April 2006, Milwaukee, Milwaukee County-At the Lake Park bird feeder, I spotted a largish bird feeding on one side, with a small sparrow on the opposite side. My first impression was of a bird perched in an upright posture, large and long (the size of a robin) with a large head (uncrested) and a massive, dark bill. The head was pinkish red, the color continuing down the breast and onto the beginning of the belly. The underlying plumage appeared gravish. The wing was dark with a light crescent on the front of the shoulder. It was facing me but turning to its left to get seeds from the feeder. The pinkish color also seemed to be on the back, but with more of the underlying gray showing in those areas. The bird was twice the size of the American Goldfinch and the Downy Woodpecker that alit on the same feeder while I watched the bird in question. The grosbeak continued to feed after they joined it, but finally flushed when a cowbird flew in. I have only seen this species once before, at a much greater distance, in the winter in the Upper Peninsula of Michigan. I am reporting it because it seems so very strange to have such a northern bird found in Milwaukee at this late date.-Jym Mooney, Milwaukee, WI.

Wisconsin May Counts: 2006

Jim Frank

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The 5 May Counts (Table 1) in 2006 showed the second lowest level of participation of the past 18 years, just shy of 2004's four counts, about 20% of what was normal 15 years ago. Leading the way in participation as usual was Winnebago with 46 participants. Winnebago remained on the top of the species list with an always amazing total of 181 species, nosing out Milwaukee/Ozaukee's 180 species, with Sheboygan adding the third highest total at 163 species.

The total species list of 225 compares with an average of 244 over the previous 17 years, paling in comparison to last year's record high 261. The only species new to this list was a Mississippi Kite from Sheboygan County. The 18 year total for species is now 297. Making appearances for only the third time in the past 18 years were Whimbrel, Lesser Black-backed Gull (all in the past four years), and Carolina Wren (Table 2). It is also noteworthy that Eurasian Collared-Doves have appeared for five consecutive years now with Great Black-backed Gulls making their second appearance in a row. Also of interest was a report of a Whooping Crane on the Winnebago count (unfortunately still "uncountable").

Table 1. The	2006	Wisconsin	May Counts.	

Count	Date	Time	Sky	Wind	Temp	Observ.	Species
Clark	5/21	05:00-21:00	_	_	_	10	130
Winnebago	5/13	03:00-21:00	Rain	NW 6	42-49	46	181
Sheboygan	5/20	03:00-18:00	Pt Clo.	5	15	18	163
Milwaukee/Ozaukee	5/20	03:00-15:00	Clear	W 17	35 - 74	11	180
Kenosha	5/13	04:30-18:30	Clo	NE 6	40 - 50	1	134

Table 2. Species of note on Wisconsin May County 2006.

Species	Count(s) recorded
Horned Grebe	Milwaukee/Ozaukee
Red-necked Grebe	Winnebago
Least Bittern	Winnebago, Kenosha
Cattle Egret	Winnebago
Cackling Goose	Winnebago
Common Goldeneye	Milwaukee/Ozaukee
Mississippi Kite	Sheboygan
Red-shouldered Hawk	Winnebago, Sheboygan, Kenosha
Rough-legged Hawk	Winnebago, Clark
Greater Prairie-Chicken	Clark
Northern Bobwhite	Milwaukee/Ozaukee
King Rail	Sheboygan
Common Moorhen	Winnebago
*Whooping Crane	Winnebago
Black-bellied Plover	Sheboygan/ Milwaukee/Ozaukee
Willet	Winnebago, Milwaukee/Ozaukee
Upland Sandpiper	Kenosha, Milwaukee/Ozaukee
Whimbrel	Milwaukee/Ozaukee
White-rumped Sandpiper	Sheboygan
Lesser Black-backed Gull	Milwaukee/Ozaukee
Glaucous Gull	Milwaukee/Ozaukee
Great Black-backed Gull	Sheboygan, Milwaukee/Ozaukee
Eurasian Collared-Dove	Milwaukee/Ozaukee
Black-billed Cuckoo	Clark, Kenosha
Yellow-billed Cuckoo	Sheboygan/ Milwaukee/Ozaukee
Olive-sided Flycatcher	Kenosha, Milwaukee/Ozaukee
White-eyed Vireo	Milwaukee/Ozaukee
Philadelphia Vireo	Milwaukee/Ozaukee
Tufted Titmouse	Winnebago
Carolina Wren	Milwaukee/Ozaukee
American Pipit	Winnebago, Kenosha
Prairie Warbler	Sheboygan
Cerulean Warbler	Kenosha
Prothonotary Warbler	Kenosha
Kentucky Warbler	Kenosha
Hooded Warbler	Sheboygan, Kenosha
Yellow-breasted Chat	Milwaukee/Ozaukee
Grasshopper Sparrow	Winnebago, Sheboygan
Henslow's Sparrow	Milwaukee/Ozaukee
Fox Sparrow	Clark
Western Meadowlark	Clark, Milwaukee/Ozaukee

WSO Records Committee Report Spring 2006

Jim Frank

WSO Records Committee Chair 10524 N. O'Connell Lane Mequon, WI 53097-3314 262. 242. 2443 jcfbirddr@yahoo.com

The WSO Records Committee reviewed 44 records of 26 species for the spring season, accepting 39 of them. Highlights of the season included Wisconsin's second record of a Wilson's Plover, first spring record of a Bullock's Oriole, continued presence of the second Band-tailed Pigeon in the state, and the fifth record for Glaucous-winged Gull.

Observers were notified of the committee's decisions by postcard in the instance of accepted records and by personal letter in the case of records not accepted.

ACCEPTED

Cinnamon Teal-

#2006-012 Ozaukee Co., 7 May 2006, S. Cutright (photo), Tessen; 10 May 2006, Gustafson; 12 May 2006, Prestby.

This rusty red, teal-sized duck was seen in direct comparison to Bluewinged Teal. Only the brown back feathering and black tail coverts broke the otherwise cinnamon color. If the open wing was observed, a light blue forewing patch, green speculum, and interceding white wing stripe were noted. A dark bill, red eye, and yellow legs and feet were also noted; the hallux was present on each foot (suggesting the bird was not of captive origin).

Eurasian Wigeon—

- #2006-013 Ozaukee Co., 19 March 2006, Prestby, Tessen.
- #2006-037 Dane Co., 29 March 2006, Stutz.

These wigeon contrasted with the adjacent American Wigeon in having a cinnamon head, buffy crown, salmoncolored breast, and gray back and flanks.

Glossy Ibis-

#2006-014 Dodge Co., 13 May 2006, Prestby (photo), Stutz, Tessen, Gustafson; 16 May 2006, S. Cutright (photo).

A Snowy Egret-sized, brown-bodied bird was reported. The wings exhibited dark green coloration. The neck was relatively long, the beak long and decurved. The facial skin was dark, but a thin white line bordered the facial skin on the forehead and cheeks. This white line did not appear to go around the eyes.

This is Wisconsin's ninth record.

White-faced Ibis-

#2006-015 Grant Co., 5 May 2006, Gross.

Two night heron-sized waders, with long necks, long legs, and decurved bills were reported. The plumage appeared entirely brown/black. The pink facial skin was surrounded by a noticeable white border that extended around the eyes and down to the bill.

(The pink facial skin and complete, white facial skin border distinguish this species from the Glossy Ibis with its bluish facial skin and thin, broken, white facial skin border)

Black-necked Stilt—

#2006-017 Bayfield Co., 16 April 2006, Bruhnke (photo), Oksiuta. #2006-036 Dodge Co., 5, 6 May 2006,

Tessen.

Noted was the overall tall and slender appearance of the bird. In addition, the long, pink-red legs, the black crown, nape, back, and wings in contrast to the white throat, foreneck, breast, and belly were noted. Also reported was the thin, relatively long, black bill.

The Bayfield Co. report is Wisconsin's third April record of this species.

Wilson's Plover—

#2006-018 Bayfield Co., 13-15 May 2006, Brady (photo); 15 May 2006, Tessen.

This plover was larger than nearby Semipalmated Plovers, but with a similar brown color on the back. The fleshcolored legs were noted. The dark brown breast band narrowed across the middle of the upper breast. Also reported was a white eye/forehead stripe, continuous across the front and sides of the face. The black bill was disproportionately large.

This is Wisconsin's second record, following on the heels of the May 2004 sighting in Douglas Co.

Semipalmated Plover—

#2006-019 Racine Co., 14 April 2006, Dixon.

This dark brown-backed plover was smaller than the Killdeer also present. The short bill was orange at the base, but black at the tip. The legs were orange. The single breast band was black as was a forecrown stripe that extended down to cover the eyes.

This is Wisconsin's third earliest spring record.

Glaucous-winged Gull—

#2006-020 La Crosse Co., 21 March 2006, Jackson (photo).

Photographs showed a gull a bit larger than an adjacent Herring Gull, but dwarfing a Ring-billed Gull. The otherwise white gull had a gray mantle, very slightly paler than a Herring Gull. The bill was heavier than that of a Herring Gull, yellow in color with a dark area near the gonys. Of significance were the folded primary tips being the same shade of gray as the mantle, with a small white spot on each tip.

This is Wisconsin's fifth record, and the second year in a row in which this species has been reported.

Black-legged Kittiwake—

#2006-021 Ozaukee Co., 10 May 2006, Gustafson.

This "flyby" was intermediate in size

between a Bonaparte's and Ring-billed Gull. Most noticeable was a dark "M" across the dorsal surface of the wing from the carpal area extending along the front edge of the primaries and from the carpal area across the inner wing to the back edge of the wing. The area of the wing behind the black "M" was white as was the under surface of the wing. The squared-off tail tip ended in a row of dark spotting. The expected dark nape was not noted. The bill was paler proximally, dark distally.

Band-tailed Pigeon-

#2005-105 St. Croix Co., 1 April 2006, Gustafson (photo), Tessen;9 April, Bontly; ? April 2006, Agger (photo).

A grayish pigeon also exhibited a white nape crescent, pinkish breast, dark gray primaries, a dark eye, yellow feet, and a bill of yellow proximally and black distally.

This is Wisconsin's second record.

Eurasian Collared-Dove—

- #2006-023 Crawford Co., 10 April 2006, Stutz.
- #2006-022 Calumet Co., 26 May 2006, Kirch.
- Washington Co., November
 1999–March 2000, Wagenknecht (photo).

This dove was slightly larger and bulkier than the associated Mourning Doves. The tail was wider and squared at the end. Its overall color was light beige-gray with a black crescent on the nape and primaries darker in color than the general plumage. The undertail was black proximally with dark gray undertail coverts.

The Washington County photo re-

port becomes chronologically Wisconsin's third record.

Barn Owl-

#2006-024 Shawano Co., 30 May 2006, Gibson (photo only).

Photos showed two fuzzy owlets, with the beginning of the tan brown color to the body, but more importantly, the elongated, white, heartshaped faces.

Scissor-tailed Flycatcher—

#2006-026 Jackson Co., 28 May 2006, Schmid (photo).

Photos revealed an overall pale gray flycatcher with black wings and a black tail, a little greater in length than the rest of the body.

Barn Swallow-

#2006-027 Waukesha Co., 17 March 2006, Gross.

A bluebird-sized bird was flying back and forth over a river. It exhibited a dark blue crown, back, wings, and tail, with a pale orange breast, and a brick red throat and forehead. The forked tail had white spots.

This is Wisconsin's fourth March record, missing the earliest date ever recorded by just two days.

Golden-winged Warbler-

#2006-028 Dane Co., 8 April 2006, Hess.

Reported on this small bird were a black face mask, black throat, yellow crown, yellow upper portion of the wings, and white separating the black face and chin patches.

This eclipses the previous earliest spring date for Wisconsin by more than two weeks.

Tennessee Warbler-

#2006-029 Dane Co., 21 April 2006, McDowell.

Initial attention was drawn to a song of loud, rapid fire notes, accelerating in tempo, in three segments of repetitive notes. When finally visualized high in a tree, the wings and back were olive in color, with the underparts lighter in tone. The sunlight left the underparts looking yellowish rather than whitish. A black eyeline and lack of wingbars were also mentioned.

The loudness of the song as well as the accelerating tempo and different segments of notes distinguished the song from the quieter, more monotonous trill of an Orange-crowned Warbler.

This is the second earliest record of a Tennessee Warbler for Wisconsin, falling short by one day of a 26-yearold record.

Yellow-throated Warbler—

#2006-030 Dane Co., 13 April 2006, Vidas.

This warbler had a white breast, yellow throat, black face patch, bold black streaks on the flanks, and two white wingbars.

Western Tanager-

#2006-031 Milwaukee Co., 16 May 2006, Mooney.

This yellowish bird was larger than a warbler with dark wings and tail. Light wingbars were also evident. The bill was shorter and heavier than that of an oriole. The face around the bill was bright red, while the rest of the head was yellow.

Lark Bunting—

#2006-047 Oneida Co., 28 May 2006, Kaspar (photo). A small black bird with a heavy, gray bill and a white shoulder patch was evident in the photo.

Bullock's Oriole-

#2006-034 Milwaukee Co., 3 May 2006, Lubahn.

This bright orange oriole differed from a Baltimore in having a bright orange cheek, an orange superciliary line, and a black eyeline. The crown and nape were black. When the wing came into view, it was noted to be black with a large, white shoulder patch.

This is Wisconsin's fourth overall record and first spring record.

Pine Grosbeak—

#2006-035 Milwaukee Co., 12 April 2006, Mooney.

This robin-sized bird was at a feeder. The bill was dark and "massive." The overall plumage was grayish, but there was obvious pink-red feathering on the head, down through the upper breast and onto the belly. A lesser amount of red was also noted on the back. The dark wing had a light crescent at the shoulder.

NOT ACCEPTED

"Bewick's" Tundra Swan—

#2006-010 Rock Co., 24 March 2006.

This otherwise Tundra Swan-like bird drew the observer's attention because of the degree of yellow on the upper sides of the bill. In addition, there was a black line up the center of the upper beak separating the patches of yellow. Although not the norm, this extent of yellow does fall within the known variation in the Tundra Swan population. A Bewick's Swan might be expected to have as much or more extensive yellow, with a bridge of yellow across the top of the upper beak connecting the two yellow sides in most instances.

Fulvous Whistling-Duck—

#2006-011 Lafayette Co., 23 May 2006.

This lone duck was described as tannish in color with a darker, mottled back. The nape and crown were darker as well. The eye was dark and relatively big in size, compared to the face; the bill dark and longer than expected. It was felt to be between a mallard and teal in size. No indication was made that the shape of the bird was more long-necked than expected, nor was mention made of any white streaking on the upper flanks.

The duck was seen to dive once. Without the white flank stripes and general conformation being described, this description could fit a female Ring-necked Duck or female Redhead.

Mississippi Kite—

#2006-016 Calumet Co., 4 April 2006.

Witnessed without binoculars, this nighthawk-like flight pattern attracted the observer's attention. It was nearly peregrine-sized, but more slender. No markings were discernible, only a relatively uniform gray color. The wings were long and pointed, the tail flared and square-tipped. The bird worked against a 20 mph wind for part of the observation, with the wind the remainder, but the flight seemed unexpectedly buoyant.

The flight characteristics were very suggestive of a kite, but the unaided eye view restricted the observation of any other distinctive traits.

This species is notoriously difficult

to document because its color patterns aren't easy to detect at many flight angles. Shape is an important aspect, but this can be altered by strong winds as hawk watchers are aware.

Chick-will's-widow-

#2006-025 Vernon Co., 23 May 2006.

This bird was heard twice at considerable distance, allowing only two notes to be heard. The notes were felt to be of equal emphasis. Although apparently a Whip-poor-will was heard at the same time, no comparison was given of the cadence of the songs. At a distance, the audible two notes of a Chuck-will's-widow should be rushed together; the audible first and third notes of a Whip-poor-will would leave a longer gap between the two notes.

Without a more comparative description of the calls, what was more than likely a correct identification is left in doubt.

Le Conte's Sparrow—

#2006-033 Milwaukee Co., 1 April 2006.

This small, short-tailed sparrow had a bright yellow-orange face and breast, dark flank streaks, and a dark cap with a white line down the middle. The nape was not described.

Although the white median crown stripe being white rather than gray fits a Le Conte's Sparrow, the bright yellow orange color makes a suggestion for a Nelson's Sharp-tailed Sparrow. Without the gray nape of the Sharptail or the purplish and reddish nape streaking of a Le Conte's being noted, the identification of this sparrow is left in slight doubt.



Spruce Grouse by Tom Prestby.

About the Artists

Jeff Hapeman has been fascinated by birds since he was a young boy growing up in eastern Pennsylvania. From a very young age, Jeff was drawn to the natural world, and turned to photography in his teens, focusing his early photographic efforts on wildflowers. After spending time in graduate school getting a MS in Botany, and then starting and selling a successful information technology consulting business, Jeff came back to photography in late 2002 with the arrival of the first generation of high-resolution digital SLRs. By late 2004, Jeff decided it was time to marry his interest in birds and photography and he began serious bird photography. His primary photographic interests are now birds and astrophotography—particularly photography of the aurora borealis. Jeff has been married for 13 years to Carolyn, who often joins him in birding, and has a young daughter, Maren, who just got her first pair of binoculars. He may be contacted via email at: jeff.hapeman@cliftoncpa.com. Some of Jeff's recent work can be seen at: http://www.pbase.com/jhapeman; prints are available for purchase upon request.

Abigail Leese is a senior at Trinity Lutheran Seminary in Columbus, Ohio. She often takes her camera along on briding outings with her husband, Ben. She took the photograph of the baby owl while completing her seminary internship at St. Andrew's Lutheran Church in Oshkosh, Wisconsin.

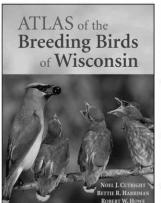
Sandy Pfotenhauer grew up in the northern Kettle Moraine near Campbellsport and still calls that area home. She has been a member of the WSO since 2000 and the Horicon Marsh Bird Club since 1995, having served on the bird club's board of directors and as secretary. She is also a member of The Camera Clique in West Bend and enjoys combining her interests in photography and nature.

Tom Prestby is an undergraduate at UW-Madison, studying Wildlife Ecology. He plans on attending graduate school and pursuing a career in wildlife or environmental conservation. He has been birding for over 10 years and has taken up the hobby of digiscoping. His favorite places in the state to bird are Horicon Marsh, Wisconsin Point, and the Northwoods.

Betsy Popp is a wildlife artist in Townsend, Wisconsin, who works in a variety of media, including oils, watercolor, and oil pastels. When not painting, she enjoys photography, taxidermy, and wood carving.



Motley Crew by Betsy Popp.



Atlas of the Breeding Birds of Wisconsin

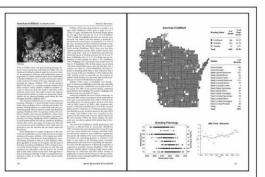
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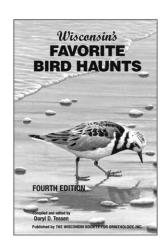
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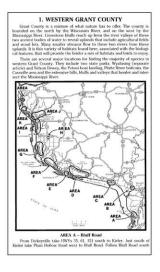


Wisconsin's Favorite Bird Haunts, Fourth Edition (2000)

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