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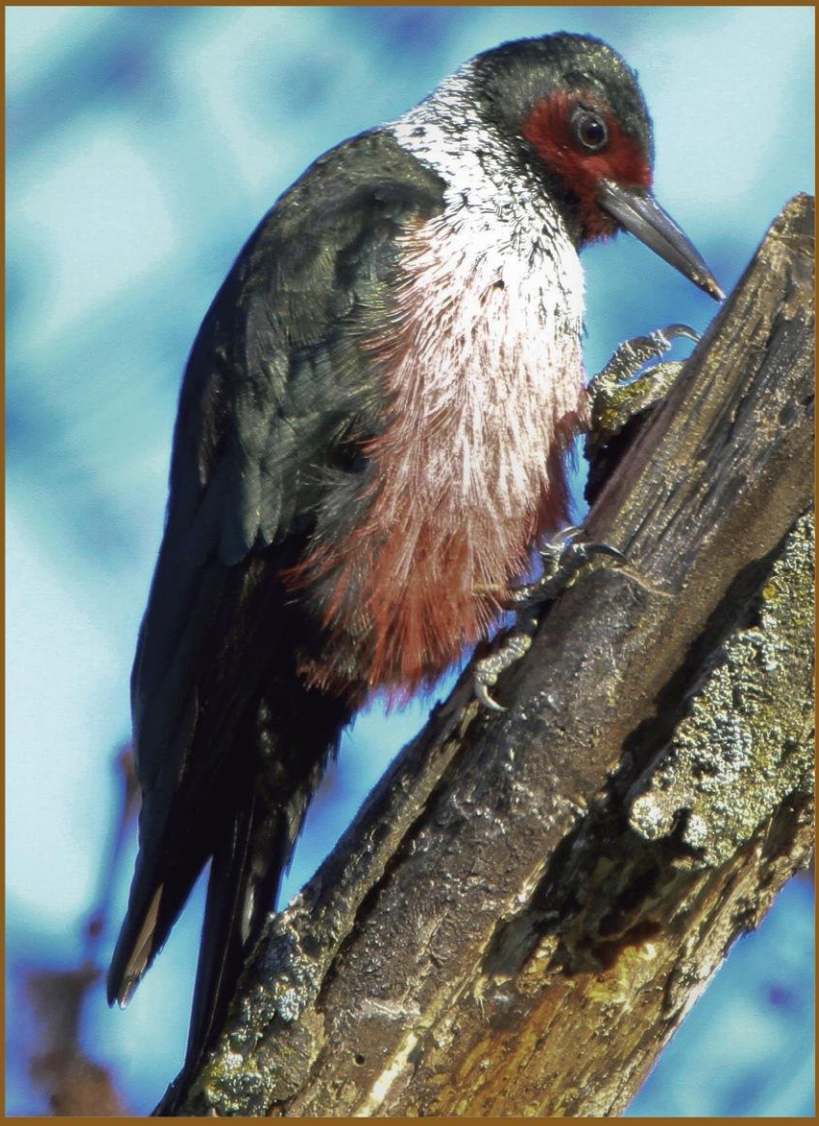
WISCONSIN SOCIETY *for* ORNITHOLOGY

The *Passenger* PIGEON

Journal of the WISCONSIN SOCIETY *for* ORNITHOLOGY



The
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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, please refer to "Guidelines for Authors and Artists," found near the back of this and following issues.

Front Cover: David Lund shared his beautiful capture of the Lewis's Woodpecker that so many birders had the chance to see during the fall and winter 2015 in Trempealeau County.

Honey Creek—Expanding our Gem

In the Fall 2015 *Passenger Pigeon* President's Statement, then President Kim Kreitinger described how important the Honey Creek Preserve is, and has been, to WSO. At that time we were negotiating with an adjacent landowner, hoping to purchase his property. By now you've heard that WSO has a signed purchase agreement allowing us to buy that property.

Getting this far would not have happened without the selfless efforts of a few core people. From WSO were Kim, Carl Schwartz, and Peter McKeever, who all put in exceptional efforts to make this happen. We also had significant help from outside WSO, including Rodney Walter from The Nature Conservancy and Mike Mossman, a true expert on, and advocate for, the Baraboo Hills.

You'll hear a lot about the how of what we still need to do the raise funds so we can close on the purchase. This will be via *The Badger Birder*, emails, mailings and other channels. In this column I'd like to talk a bit about why we are excited about adding this parcel to our Preserve.

A bit of history of the Preserve:

WSO purchased the first parcel of land at Honey Creek in 1960

WSO was one of the first conservation organizations in Wisconsin to preserve critical bird habitat with our Honey Creek acquisition

Several additional parcels were added bringing the total to 267 acres

The Honey Creek Nature Preserve was designated a State Natural Area in 1971

The protection of the Honey Creek Valley is largely attributed to one individual: Harold G. Kruse, a WSO member who acted as ambassador for it and the larger Baraboo Range region by negotiating with landowners and arranging the initial WSO land acquisitions

The Preserve was renamed the Harold and Carla Kruse Honey Creek Nature Preserve in 2010 to honor these conservation pioneers

WSO was established in 1939. For much of our history, the Honey Creek Valley has been a vital part of our organization's culture. The Preserve has helped us further our mission to promote the enjoyment, study and conservation of Wisconsin's birds.

The Honey Creek Nature Preserve is a special property in a special place in Wisconsin. Through ownership, the WSO has ensured the preservation of the richly diversified plant and bird life of this unique property. We are committed to expanding Honey Creek by acquiring an additional 104 acres immediately adjacent to the current preserve, increasing the preserve to a total of almost 372 acres.

The property we're purchasing includes high quality hemlock and pine relicts, oak savanna, and diverse woodlands and wetlands that support several species of

statewide conservation concern, including nesting Cerulean Warblers, Hooded Warblers and Acadian Flycatchers.

WSO's Board of Directors did not take the decision to pursue this land purchase lightly.

The prime focus of some conservation organizations, generally known as land trusts, is on acquiring and maintaining properties. Property management is the major part of the day-to-day activities of land trusts. Other conservation groups focus more of their time on different activities such as education, research, and advocacy.

WSO is not primarily a land trust, and the Board was concerned that acquiring more property would lead us in that direction, taking our focus and energies away from other core priorities, a concern I shared. But we also felt that because this property directly borders our current land, it made a lot of sense to consider adding it to our holdings. I would not have considered buying additional land that wasn't right next door to our Preserve, and that opinion was shared by most of the Board.

Not only does the parcel directly border our existing lands, it fits very well with what we already have. Our existing land is basically a large "L"-shape. The new parcel will fill in the corner of the "L" giving us a continuous rectangular property.

The new parcel also fits well with the landscape features on our current land. In particular, it would give us control over all of the stream valley on the north side of Sky View Road. As of now we only own a portion of it.

Acquiring the additional parcel at Honey Creek also fits in well with the ongoing long-term Baraboo Hills land preservation efforts. Protecting the unique resources of the Baraboo Range has been a major focus of Wisconsin's conservation community since the 1960s, an effort WSO helped initiate. We would be contributing a significant addition to the matrix of land already preserved by other organizations, including The Nature Conservancy and the Baraboo Range Preservation Association.

More than 50 years ago, WSO members, following the vision of Harold Kruse, had the foresight to protect an exceptional parcel of land in the Baraboo Range. Today we have the chance to continue Harold's legacy and secure an important addition to Honey Creek.

Michael John Jaeger, President

Our Youth and the Future of Birds

Only 16% of our membership is under the age of 25. This warrants a look at what we can do to regenerate and invigorate our ranks. Young people bring new ideas to an organization, plus a lot of energy that some of us only remember with nostalgia. It's important that we are all mindful of building the next generation of WSO members.

As Stan Temple recalls in his essay on experiences with Rachel Carson, it's often a person who takes special interest in young people and is willing to spend time with them that instills enthusiasm about nature. We all enjoy birding with someone who has the patience to explain and to give encouragement. We, like Michael John Jaeger in his President's Statement in this summer's issue, can all recall older, more experienced teachers who had a special impact on our lives simply because they spent time with us and shared what they know and love.

So what is WSO currently doing for young people? WSO has a number of youth-directed projects under the direction of Education Co-chairs, Ed Hahn and Jim Knickelbine. There is a WSO Youth Grant project that provides support for bird research and bird education programs. Secondly, in partnership with the Wisconsin Bird Conservation Initiative, WSO has developed Monitoring Kits to allow educators and their students to study birds and their habitats and build their appreciation of the natural world and gain a desire to conserve it. There is also Summer Bird Camp done in partnership with the Ecology Center of Milwaukee. There, students get to attend a weeklong day camp with a focus on learning about birds and getting out in the field. At the end of the week, the students receive a field guide and a pair of binoculars!

Still another popular and fun project developed by WSO and its partners is the Great Wisconsin Oriole Count. Students learn about and observe the beautiful Baltimore Oriole, a colorful ambassador for birds that summer in Wisconsin and winter in Central and South America. In addition, WSO teamed up with Steve Betchkal to produce "Bird TV," a series of education videos covering topics related to wild birds, written and produced by Steve Betchkal. The episodes feature original images and video of Wisconsin birds collected by some of the state's finest photographers, and is available for viewing without charge. Please find more information about these programs on the WSO website (wsobirds.org). You may also contact the WSO Education Co-chairs at education@wsobirds.org.

What can we do as individuals? We can help our young people benefit from our passion and experience, encourage them to attend the WSO programs in place, and facilitate their attending free WSO and Audubon Society field trips as well as the inexpensive WSO annual conventions. We can let them know that they can join WSO at a reduced rate.

We can take them birding ourselves. It's been said that the greatest gift we can give anyone is our time followed by encouragement, and that's doubly true with young people. If we take photos, we can show them images that capture their imagination. We can take children and young people with us to our favorite bird haunts or to our atlas blocks and explain what we're doing and why. Most of all, we can simply share our love of the outdoors and birdlife.

In the last issue we had a drawing of an American Kestrel by a gifted eleventh grade high school student. A monochrome rendition of a painting by another gifted high school student appears in this issue. We welcome more art from youth for these pages. We would also like to have students contribute more through articles, or to be part of the research resulting in articles. We encourage all members to share their love of nature in any way with young people. They are our future.

Chuck Heikkinen & Delia Unson

Greg Hottman imaged this early September 2015 Sedge Wren in Dane County.

Rachel Carson and a Childhood Sense of Wonder

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"If a child is to keep alive his inborn sense of wonder . . . he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement, and mystery of the world we live in."

—Rachel Carson

I recently read an editorial by Harold W. Fairbanks in the 1905 edition of *The Nature Study Review* that contains a remarkably prescient summary of what has become a cause célèbre among today's environmental educators.

"Children . . . are shut away in too many instances from a free contact with nature; their needs are so provided for and dangers guarded against, that they grow up with undeveloped capacities and in almost total ignorance of the world of nature," lamented Fairbanks.

A proponent of the progressive "nature study movement," an experiential approach to childhood learning about nature, Fairbanks asked readers to consider, "how much more [children] would make of their surroundings, and how much more these surroundings would heighten their interest and zest in life if they were able to appreciate them in even a very simple way."

Recent generations of children have grown up with even fewer meaningful experiences in the outdoors than those of a century ago, and today's youth spend far more time indoors or in highly controlled outdoor settings than ever before. In his 2005 book, *Last Child in the Woods: Saving our Children from Nature-Deficit Disorder*, journalist and child advocate Richard Louv introduced the term "nature-deficit disorder" to characterize the long-recognized suite of problems that could be attributed to childhood isolation from nature.

Much like Fairbanks and the nature

The text of this essay first appeared in *Wisconsin People and Ideas*, Spring/Summer 2015, pp. 14–18. It is being reprinted with the permission of the Wisconsin Academy and the author.

study practitioners of the late 19th and early 20th century, Louv believes that early experiences in nature profoundly influence a child's physiological, emotional, and social development. According to Louv's findings, children disconnected from the out of doors are very unlikely to be concerned about nature. Even worse, he notes they grow into adults with little or no interest in conservation or environmental stewardship.

It's clear that if we are to cultivate knowledge about—and a sense of responsibility for—nature, we need to begin at a very young age. Those concerned about nature and environmental stewardship might benefit from considering old-fashioned, nature study as one way to offset nature-deficit disorder. The past, as exemplified by the nature study movement, may provide key insights for environmental education today.

I can trace my fascination with nature all the way back to my pre-school years. By the time I was eight years old, that early interest prompted my decidedly non-outdoorsy mother to find ways for me to experience nature with more knowledgeable adults. While we were living in the Washington DC area in the 1950s she let me attend field trips with the Audubon Society of the District of Columbia. I didn't know it at the time, but the kindly woman who took me under her wing on these outings would eventually become one of my personal inspirations and professional heroes.

At first, she was simply Miss Carson to me, and she took time to interact with me in ways none of the other field trip attendees did. A connection that perhaps only birders would understand formed between us when I received as a Christmas present from my indulgent grandparents my first pair of serious birding binoculars: new, state-of-the-art Bausch and Lomb Zephyr 7x35s. Coincidently, Miss Carson also acquired the same binoculars. Although these binocs provided an icebreaker, it was clear to me, even before then, that she took special pleasure in sharing with me her sense of wonder with the natural world.

I eventually figured out that my field trip buddy was scientist and nature writer Rachel Carson, then the award-winning author of *The Sea Around Us*. Published in 1951, *The Sea Around Us* captures the mystery and allure of the ocean with a compelling blend of literary imagination and scientific expertise. I had seen the Oscar-winning nature film adaptation of the book at my local movie theater, and was flattered that such a famous person as she would take an interest in encouraging a precocious young naturalist like me.

I learned many things on those Audubon Society field trips to places like the Maryland shores and Pennsylvania's Hawk Mountain. Most of the adult naturalists with whom I interacted in childhood seemed intent on teaching me facts, especially how to identify and name things. Miss Carson seemed more interested in exposing me to the pure joy of experiencing nature.

Carson's sensitive and effective approach stimulated my youthful curiosity and helped me to both love and understand nature. She encouraged me to observe, to listen, to explore and experience, to appreciate, and, most of all, to enjoy the wonders of the natural world.

Years later I would discover that her interest in helping young people enjoy nature was a lifelong passion, and that she had attempted to create a how-to guide of sorts with a 1956 article titled, "Help Your Child to Wonder," which

was eventually made into a book called *The Sense of Wonder* shortly after her death in 1964.

"I sincerely believe that for the child, and for the parent seeking to guide him, it is not half so important to know as to feel," she wrote in *The Sense of Wonder*, stressing the importance of paving the way for the child to want to know rather than "put[ting] him on a diet of facts he is not ready to assimilate."

Carson also understood how crucial it is to expose a child to nature in just the right way at just the right time, while a child's world is "fresh and new and beautiful, full of wonder and excitement." In *The Sense of Wonder* she describes how many of these instincts for "what is beautiful and awe-inspiring," can be dimmed and even lost before we reach adulthood:

> If I had influence with the good fairy who is supposed to preside over the christening of all children, I should ask that her gift to each child in the world be a sense of wonder so indestructible that it would last throughout life, as an unfailing antidote against the boredom and disenchantments of later years, the sterile preoccupation with things that are artificial, the alienation from the sources of our strength.
>
> If a child is to keep alive his inborn sense of wonder without any such gift from the fairies, he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement and mystery of the world we live in.

For me, Carson was one adult who filled the role of "gift fairy." And, although others would follow and influence me in different ways, her wonderful gift to me came at the perfect time when nature was still fresh and full of wonder and excitement.

After my family moved to Cleveland, Ohio, my youthful interest in nature continued to flourish. I spent every moment I could outdoors (including, much to my mother's dismay, frequent truancy when nature beckoned more than the classroom). My teenage enthusiasm for natural history caught the eye of several local naturalists who continued to mentor me, picking up where Rachel Carson had left off.

One naturalist who took a special interest in me was Bill Scheele, director of the Cleveland Museum of Natural History. Scheele gave me a challenging job at the museum with the clear expectation that enriching experiences there would surely lead me toward a career in the natural sciences. He was right. My high school years at the museum provided unparalleled opportunities that allowed the passion for nature that Rachel Carson had cultivated to mature and become eventually more focused on conservation science.

As the years went on and I embarked on my career as a scientist and educator, I began to wonder how Rachel Carson had formed her ideas about the importance of early exposure to nature. One can argue—and Carson herself suggests—that these ideas arose largely from her personal experiences rather than rigorous study of child development or comparisons of different methods of exposing children to nature.

While children of her generation certainly had more opportunities to spend free time in nature, an influential force at the time was the popular nature study movement championed

by Cornell University illustrator and educator Anna Botsford Comstock. In fact, Comstock literally wrote the book on the subject, and her *Handbook of Nature Study*, published in 1911, lasted for twenty-five editions in eight languages and touched tens—if not hundreds—of thousands of young lives across the world.

Nature study proponents like Comstock, Liberty Hyde Bailey, and Louis Agassiz believed early positive experiences in nature would lead to affection for nature, impart a basic understanding of how the world works, and encourage a sense of environmental stewardship. From 1896 to 1904 Cornell University issued a series of "Nature-Study Leaflets" that were widely distributed to schoolteachers and students to guide their outdoor learning activities. The movement and those leaflets influenced many naturalists and scientists who grew up during this period, including Rachel Carson and Aldo Leopold. In fact, the American Nature Study Society, founded in 1908 by Comstock and Bailey, is one of America's oldest environmental organizations still in operation today.

Rachel Carson's mother, Maria, a former schoolteacher with an interest in natural history, would have been familiar with Comstock's *Handbook of Nature Study*. She introduced her young daughter to nature using methods promoted by the movement. One such exercise that Rachel Carson experienced as a child and that she shared with me was collecting caterpillars and cocoons of moths and butterflies and carefully observing them metamorphose. To this day, I can recall my childhood awe at first watching a beautiful cecropia moth emerge from a cocoon I had collected on a field trip the previous fall. Clearly, Rachel Carson would later incorporate nature study approaches such as this into her own ideas about children's education and, in many ways, make them central tenets of her work.

Since the days of my early childhood encounters with Rachel Carson, and especially after the first Earth Day in 1970, formalized environmental education programs have emerged to expose young people to nature in structured outdoor settings, often at nature centers. This approach has been one of our society's main remedies for "nature-deficit disorder."

One wonders what Rachel Carson, were she alive today, would think about the approaches we have been pursuing.

After the publication of her 1962 book, *Silent Spring*, Rachel Carson was often in the news, and she was a frequent topic of lively discussions in which I took part at the Cleveland Museum. For many Americans, *Silent Spring* was an eye-opening account of the detrimental effects on the environment—particularly on birds—of the indiscriminate use of pesticides. But the book was also an indictment of an unregulated chemical industry and the public officials who unquestioningly accepted industry claims of safety.

I read *Silent Spring* and followed the public debate over DDT with special interest, since I knew Carson and by that time had become especially interested in birds of prey, a group of species that was being decimated by pesticides.

Then, in early 1964, I received an unexpected opportunity to reconnect with the woman who had nurtured my early interest in nature. A family friend asked if I would like to see Carson, who was secretly in the city for medical treatment at his oncology clinic. Of course, I did, and he arranged for a brief visit.

Although she was obviously very ill (I later learned she was dying of cancer), she was as wonderful as I remembered her. She seemed pleased that my early childhood fascination with nature—which she had cultivated—had blossomed and that I was going to study ecology and ornithology at Cornell University. Carson died later that spring at her home in Silver Spring, Maryland, the manuscript for her book on children and nature left unfinished.

But her inspiration lives on in many scientists, environmental advocates, and nature educators of my generation. As Carson so aptly described in *The Sense of Wonder*, that final piece of her literary legacy, human emotions and senses are the "fertile soil" that nurtures a love of nature:

> If facts are the seeds that later produce knowledge and wisdom, then the emotions and the impressions of the senses are the fertile soil in which the seeds must grow. The years of early childhood are the time to prepare the soil. Once the emotions have been aroused—a sense of the beautiful, the excitement of the new and the unknown, a feeling of sympathy, pity, admiration or love—then we wish for knowledge about the subject of our emotional response. Once found, it has lasting meaning.

For me, Rachel Carson personally prepared the soil from which my career and lifelong love of nature would spring.

Eric Preston captured this Hermit Thrush out in the open in early October 2015 in Iowa County.

David Franzen found this immature Harris's Sparrow in mid-October 2015 in Vilas County.

Making the Migratory Bird Treaty Work, Then and Now: A Centennial Assessment

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ABSTRACT

This year marks the centenary of the "Convention between the United States and Great Britain (for Canada) for the Protection of Migratory Birds" (the Migratory Bird Treaty, for short). The 1916 treaty became the cornerstone of our national commitment to protect birds from being killed by people. The Migratory Bird Treaty Act of 1918 implemented the landmark 1916 treaty, and together the treaty and act form one of the oldest and most enduring bird conservation measures in the world. But human-caused mortality of migratory birds today is mostly inadvertent, rather than deliberate as in the past, challenging the effectiveness of these milestones. Loss and degradation of habitat, collisions with human-made structures, predation by cats, poisoning, and oil spills inadvertently cause the deaths of hundreds of millions of migratory birds each year. Are the century-old treaty and its enabling act up to the task of protecting birds against 21st century human threats? Here, I recount the first century of migratory bird protection and speculate about the future.

As we observe the centenary of the Migratory Bird Treaty in 2016, it is worthwhile to revisit the state of the birds around 1900. With essentially no regulations in place, market hunters had decimated many U.S. bird populations. By the end of the 19th century, Labrador Ducks and Great Auks were extinct, soon to be joined by Passenger Pigeons, Carolina Parakeets, and Heath Hens. The extinction of the Passenger Pigeon in the wild in 1902 was perhaps the single most important turning point in our national concern about the state of our birds. How could one of the world's most abundant birds have disappeared? All these avian disasters were caused by people deliberately killing birds, so the obvious solution was to protect birds from such direct sources of human-caused mortality. Similarly, birds needed undisturbed places where they would not be killed or harmed by people, so the ob-

Editors' Note: This essay is a transcript of Stan Temple's keynote address at the 2016 WSO Convention in Racine May 14, 2016.

vious solution was to protect key bird habitat as refuges. An era of "protectionism" in our approach to bird conservation was born in the early 20th century, and for the first time people were employed to enforce protection efforts. Hence, the first bird conservation professionals were wardens and rangers who enforced protection of birds and refuges.

An Era of Protectionism Emerges

The first federal action to protect birds was the Lacey Act (1900). Rep. John Lacey justified the legislation when he introduced the bill:

> "The wild pigeon, formerly in flocks of millions, has entirely disappeared from the face of the earth. We have given an awful exhibition of slaughter and destruction, which may serve as a warning to all mankind. Let us now give an example of wise conservation of what remains of the gifts of nature."

The Lacey Act would become the first federal wildlife protection law, and it ushered in an era of protectionism backed by national policies and legislation.

Recognizing that migratory birds needed to have places where they could be undisturbed by humans intent on harming them, in 1903 President Theodore Roosevelt signed an executive order protecting Pelican Island, Florida, as the first federal bird reservation: "a preserve and breeding ground for native birds." The creation of Pelican Island Reservation marked the first time that the federal government protected land for the sake of wildlife. It established the precedent of protecting places for birds in addition to protecting the birds themselves.

In spite of these nascent protection efforts, migratory birds were still being killed under circumstances that defied biological logic. Spring hunting damaged breeding populations just as they were preparing to nest. Reflecting the growing concern about lax protection during the breeding season, a 16-year old Aldo Leopold wrote prophetically to his parents upon hearing of spring duck hunting on the Mississippi River near his boyhood home in Burlington, Iowa, in 1906: "I am very sorry that the ducks are being slaughtered as usual, but of course could expect nothing else. When my turn comes to have something to say and do against it and other related matters, I am sure that nothing in my power will be lacking to the good cause."

In response to growing outrage over continued killing of migratory birds, Congress passed the Weeks-Mclean Migratory Bird Act in 1913. It banned spring shooting of migratory birds and under the public trust doctrine declared them to be under the "custody and protection" of the federal government. The Secretary of Agriculture was given the power to set hunting seasons nationwide, providing the first attempt to standardize hunting across the country and avoid the patchwork of state hunting regulations. It also prohibited the sale of wild bird feathers for use in the millinery trade. Two federal courts promptly ruled the act unconstitutional for infringing on each state's right to set hunting seasons within its borders.

Meanwhile, discussions were under way in the emerging bird conservation community and in Congress about

what could be done to improve protection. Migratory birds had captured a lot of attention, and their seasonal movements across state lines left them vulnerable to uncoordinated and uneven state regulations. Eventually, the discussions coalesced around instituting a continental-scale solution that would pass legal scrutiny. In 1916 the "Convention Between The United States And Great Britain For The Protection Of Migratory Birds" achieved that vision:

> "WHEREAS, Many species of birds in the course of their annual migrations traverse certain parts of the United States and the Dominion of Canada; and
>
> WHEREAS, Many of these species are of great value as a source of food or in destroying insects which are injurious to forests and forage plants on the public domain, as well as to agricultural crops, in both the United States and Canada, but are nevertheless in danger of extermination through lack of adequate protection during the nesting season or while on their way to and from their breeding grounds;
>
> The United States of America and His Majesty the King of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the Seas, Emperor of India, being desirous of saving from indiscriminate slaughter and of insuring the preservation of such migratory birds as are either useful to man or are harmless, have resolved to adopt some uniform system of protection which shall effectively accomplish such objectives . . ."

The Migratory Bird Treaty was a huge step in the right direction, but it still focused just on the contemporary problem of individuals deliberately killing birds. It also had a curious anthropocentric bias of protecting some birds that were "either useful to man" or "harmless," but other species (e.g., raptors and corvids) were left less protected and under state authority. It did, however, highlight that many birds were "in danger of extermination through lack of adequate protection," and it recognized that migratory birds needed "uniform system of protection" across the continent.

As with all international treaties, the Migratory Bird Treaty needed to be ratified by Congress and implemented by enabling legislation. In 1918 Congress passed the Migratory Bird Treaty Act, which made it a federal crime for individuals to "pursue, hunt, take, capture, kill," or "sell" a migratory bird or any of its parts, including nests, eggs, and feathers. For the first time, it standardized protection of migratory birds across the nation and put them under federal jurisdiction. Challenges were quick to come from states that felt the Act usurped their authority over wildlife within their boundaries, but in 1920 the U.S. Supreme Court rejected the challenges to the constitutionality of the Migratory Bird Treaty Act, ruling that it did not violate states' rights.

With protection of migratory birds in place, the remaining question was would it reverse the fortunes of species that had been decimated by overkill (i.e., by killing birds faster than they could reproduce and replace the losses). Gradually depleted populations

of many overexploited bird species made dramatic comebacks after being protected from overkill. Some, such as Wood Ducks and Wild Turkeys, have recovered to levels that can now permit well-regulated, sustainable exploitation.

Other Measures to Help Migratory Birds

From these important starting points the era of protectionism expanded. The Migratory Bird Conservation Act (1929) gave government the authority to create refuges for migratory birds. The Migratory Bird Hunting Stamp Act (1933) provided funding. In 1936 the US signed a migratory bird treaty with Mexico. Raptors finally received federal protection under the Bald and Golden Eagle Protection Act (1940). Protection of migratory species went hemispheric with the Convention for Nature Protection and Wildlife Preservation in the Western Hemisphere (1940). In the 1970s the US signed migratory bird treaties with Japan and the Soviet Union. Today, 1,026 bird species are now covered by the protection first afforded by the Migratory Bird treaty and the Migratory Bird Treaty Act.

But it became increasingly clear that protection from deliberate killing by humans was not alone keeping up with the threats to birds. As the 1960s ushered in a new era of environmental awareness other help for migrants broadened our approaches to bird conservation. In order to keep better track of the status of bird populations the North American Breeding Bird Survey was launched in 1966. In 1973 the Endangered Species Act expanded the ways to recover threatened species, shifting from mere protection to active management intervention to prevent extinctions and promote recoveries. In 1980 the Fish and Wildlife Conservation Act authorized financial and technical assistance to the states for the development, revision, and implementation of conservation plans and programs for nongame fish and wildlife. The North American Wetlands Conservation Act (1989) provided funding and administrative direction for implementation of the North American Waterfowl Management Plan and the Tripartite Agreement on wetlands between Canada, U.S. and Mexico. In 1990 the Partners in Flight project was launched in response to growing concerns about declines in the populations of many land bird species. The initial focus was on neotropical migrants, species that breed in the Nearctic (North America) and winter in the Neotropics (Central and South America), but the focus has spread to include all landbirds. Since 1993 the world has celebrated International Migratory Bird Day, and in 2016, International Migratory Bird Day highlights the importance of international efforts to conserve birds through agreements, laws, treaties, and collaborations. The North American Bird Conservation Initiative was launched in 1999 to ensure that populations and habitats of North America's birds are protected, restored and enhanced through coordinated efforts at international, national, regional and local levels guided by sound science and effective management. The Neotropical Migratory Bird Conservation Act passed in 2000 and provides federal matching grants to neotropical migratory bird conservation projects throughout the Western Hemisphere, with at least 75 percent of funding going to projects outside the United States. In 2009 *State of the Birds Reports*

began assessing the health of our nation's bird populations through a set of habitat indicators, a Watch List of species most vulnerable to extinction, and a list of Common Birds in Steep Decline.

Problems for Birds in Today's World

All of these positive developments have expanded the range of conservation actions from mere protection to research, management and education. But how well are these actions addressing the ways that humans harm migratory birds today? Threats to birds fall into roughly four categories: overkill, exotic species, habitat loss, and ecosystem stress. Overkill threatens birds when we either deliberately or inadvertently kill birds at a rate faster than they can reproduce. If it persists, it inexorably results in extinctions. Exotic species can threaten birds when we deliberately or inadvertently introduce species to areas outside their natural geographic ranges where they often impact native birds. Habitat loss threatens birds when we deliberately or inadvertently destroy or degrade the natural habitats that birds depend on for their survival and reproduction. Ecosystem stress threatens birds when we disturb ecological systems with pollution and other unnatural influences that ultimately impact birds through cascading problems within an ecosystem.

Of these four now-pervasive threats to birds, old-fashioned protection alone addresses only overkill. That was the main issue a century ago when we began to address the threats to birds, but it has been long recognized that protection alone is not enough. As early as 1930, Aldo Leopold recognized the shortcomings and shifted the paradigm of wildlife conservation to management rather than mere protection:

> "Conservation is at this moment in a particularly difficult stage of its development. The set of ideas which served to string out the remnants of the virgin game supply [that would be protectionism], and to which many of us feel an intense personal loyalty, seem to have reached the limit of their effectiveness. Something new must be done."

Does that mean that protection from overkill is no longer a priority? Even though we now harm birds in many more ways than a century ago, direct deliberate overkill is still a problem for a few species that are killed as pests and trapped illegally for the pet bird trade, and we still need to protect those species from such direct human-caused mortality. But most human-caused mortality nowadays is inadvertent. Instead of killing migratory birds deliberately, we now kill them inadvertently in ways that can still result in overkill, and even inadvertent killing is still the result of human activities. Table 1 shows the most common ways that we inadvertently kill birds in North America today.

Clearly the biggest source of inadvertent human-caused mortality is predation by feral and free-ranging domestic cats (~2.4 billion birds killed annually in the US). It's also a major bird conservation problem worldwide. These cat populations are a direct result of human decisions to allow cats to exist in places where they never occurred naturally. It is troubling that populations of feral and free-ranging cats are increasing rapidly, and what to

Table 1. Estimated annual human-caused mortality in the US and Canada. Data from 2014 State of the Birds report (http://www.stateofthebirds.org/2014)

Human-caused mortality factor	Birds killed per year in the US	Birds killed per year in Canada
Cat predation	2.4 billion	196 million
Building windows	599 million	25 million
Automobiles	200 million	14 million
Power line collisions	25 million	26 million
Communication towers	6.6 million	220 thousand
Power line electrocution	5.6 million	481 thousand
Agricultural chemicals	No data	2.7 million
Wind turbines	234 thousand	17 thousand

do about them remains a VERY controversial issue! But, "TNR" (Trapping, Neutering and Releasing feral and free-ranging cats is not the answer. TNR programs are promoted actively by some as a "humane" way to deal with cat overpopulation, but it can't control numbers over a large area unless you can trap an unrealistically large proportion of a population.

Even if it worked, TNR maintains cats' access to birds that they continue to kill. The American Bird Conservancy's "CATS INDOORS!" program (Website: www.abcbirds.org) is focused on keeping pet cats confined to reduce the number of free-ranging individuals. It is a well-conceived, balanced approach endorsed by many who care about the welfare of birds and cats, and it could reduce free-ranging cat populations by a third to a half in many areas.

The next most important sources of human-caused mortality are collisions with various human-made objects. Nocturnal migrants in particular strike tall towers and buildings, and 836 million birds per year are killed that way in the US. In Wisconsin, the toll at a single 1000-ft tower in Eau Claire from 1957-1994 totaled 121,560 birds of 123 species. In 1999, Audubon and partners established the first "Lights Out" program in Chicago to reduce nocturnal collisions. Since then, groups in many other cities have organized programs, including Milwaukee.

Among the ways that we kill birds inadvertently, lead poisoning remains a serious threat to a few types of birds. Although the huge problem of lead poisoning of waterfowl that ingested spent lead shot was addressed by a national ban on waterfowl hunting with lead shot, there are less well known ways that lead finds its way into some birds. Scavengers, like California Condors and Bald Eagles, are killed when they feed on a carcass containing lead shot or bullet fragments. Lead fishing tackle poisons fish-eating birds, like the Common Loon, that ingest the tackle. For Common Loons lead poisoning is one of the biggest sources of mortality, and it is a source of inadvertent mortality that results directly from stubborn resistance to banning lead fishing tackle, even though non-toxic alternatives are available.

An even more troubling and diffuse source of human-caused bird mortality is the inadvertent killing of birds by industries that simply treat dead birds as unavoidable externalities, an unaccounted cost of doing business as usual.

A number of industries are well known to kill significant numbers of some birds incidental to their normal operations. The petroleum industry kills birds in oil spills and oil waste pits. Commercial fishing operations kill many birds as by-catch, the non-target organisms that get killed by nets and hooks. Utility companies cause bird mortalities by electrocutions and by collisions with their high-tension wires, wind turbines, cell towers, etc.

Does the Migratory Bird Treaty Apply to Such Inadvertent Killing?

Some courts have ruled that if a person kills a bird then they are guilty of violating the Migratory Bird Treaty Act, regardless of intent. Other courts have ruled that a person must know that their actions were likely to harm a bird in order to be found guilty. A few courts have ruled that only hunters and poachers can be convicted, as that's what seems to some to have been intended back in 1916. With such mixed messages, expect the Supreme Court to hear one of the Migratory Bird Treaty Act cases soon. Nonetheless, since the 1970s, federal prosecutors have been charging those who inadvertently kill large numbers of birds, especially focusing on deaths that could have been avoided with simple infrastructure modifications or obvious caution. The Department of Justice first notifies violators and works with them to correct the problem, but if they "ignore, deny, or refuse to comply" with best management practices, then the "matter may be referred for prosecution."

There have been a number of prosecutions, and several have triggered political pushback against the Migratory Bird Treaty Act. For example, in 2002 a federal court ruled that the U.S. Navy violated the Act during live-fire exercises that killed birds. Congress quickly responded by exempting the incidental taking of birds during "military readiness activities." In 2012 a federal court dismissed charges against three oil and gas companies for violations arising out of the incidental death of migratory birds in open oil pits operated by the defendants. These and other events were significant because they did not result in the criminalization of the inadvertent killing of migratory birds. Then, in 2013 after the Deep Water Horizon oil spill, BP pled guilty to violating the Migratory Bird Treaty Act and agreed to pay $100 million to support projects focused on wetlands restoration and bird conservation in the United States, Canada and Mexico.

Then in 2015 Congressional Republicans tried to completely suspend enforcement of the Migratory Bird Treaty Act. Without a recorded vote, the House of Representatives included a rider, offered by Congressman Jeff Duncan (R-SC), in the Department of Justice's budget appropriations bill that would have prohibited the federal government from prosecuting anyone for violating the Migratory Bird Treaty Act. Congressman Duncan had the opportunity to promote his amendment during floor debate, but he did not do so. So, the appropriations bill moved forward without the Duncan amendment, but a bill was introduced, again by Duncan, seeking to amend the Migratory Bird Treaty Act to exempt from criminal liability any taking, killing, or other harm to a migratory bird that is accidental or incidental to the presence or operation of an otherwise lawful activity. Duncan seems determined to weaken the Act, and his close connec-

tions with Duke Energy and the wind industry were widely thought to be behind it. No action has resulted.

In 2016 the Obama administration proposed revising a federal rule that allows wind-energy companies to operate high-speed turbines for up to 30 years, even if it means killing or injuring thousands of federally protected Bald and Golden Eagles. Under the proposal, companies could kill or injure up to 4,200 Bald Eagles a year without penalty. Golden and Bald Eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The laws prohibit killing, selling or otherwise harming eagles, their nests or eggs without a permit.

The Migratory Bird Treaty Needs Public Support

It seems almost certain that these and other assaults on the Migratory Bird Treaty and its enabling Act will continue to be pushed by powerful special interest groups that are inconvenienced by having their inadvertent bird kills treated as a crime. Those who care about birds need to support efforts to reduce killing of migratory birds, and make sure they aren't themselves inadvertently killing birds by allowing their cats to free range or letting birds fly into glass windows. And perhaps most important, they must be aware of and respond to the stealthy political threats to the Migratory Bird Treaty Act.

It is important for all those concerned about birds to let politicians know you want to see migratory bird protection strengthened, not weakened, and there are some explicit improvements that would clarify and strengthen the Migratory Bird Treaty Act: increasing fines to deterrent levels; adding poisoning to the list of prohibited acts; holding corporations, organizations, and government as well as individuals liable for violations; clarifying when inadvertent actions are liable; and exempting purely accidental minor mortality (who hasn't, for example, hit and killed a bird while driving?).

So, while we celebrate the 2016 centenary of the signing of the Migratory Bird Treaty, we should also be preparing to defend the Migratory Bird Treaty Act as it approaches its centenary in 2018.

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Collaborative Habitat Management in Agricultural Landscapes: Opportunities and Barriers to Farmer Involvement in the Central Wisconsin Grassland Conservation Area

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ABSTRACT

Collaborative habitat management functions at an intersection of differing priorities, which at times result in conflict, within the rural landscape. Collaborative habitat management considers stakeholder conflict as a catalyst, rather than an obstruction to improvement. The research presented here explores the beliefs and opinions toward collaboration held by stakeholders and government agents working in the Central Wisconsin Grassland Conservation Area (CWGCA). We seek to understand the barriers and opportunities available to improve the collaborative process in the CWGCA and to provide recommendations for a more effective conservation effort. This study uses a mixed-methodology began by utilizing semi-structured interviews with knowledgeable and active stakeholders of this landscape to understand the challenges associated with meaningful landowner input and the ability of government agents to communicate with farmers in this landscape. The research team interviewed active stakeholders in-

volved in this grassland management effort, including representatives from agencies, conservation organizations, wildlife experts, and the farm community. Interviews revealed important themes related to public participation and communication between government agents and rural landowners. Building upon the interview results, a web-based survey was then sent to over 100 government agents (county, state, and federal) that had worked in the CWGCA landscape between 2006 and 2013. The survey effort yielded a 46% response rate. Our results indicate that agencies are losing farming experience through retirement. Additionally, government agents varied in their response to questions about how to best involve local landowners while planning for and managing the landscape. These findings illustrate significant barriers to effectively managing land use in the agricultural landscape of central Wisconsin. Findings from this research provide a basis for management recommendations, such as sharing decision making with local stakeholders, broadening the range of concerns addressed by the management plan, working to create an environment of co-learning, and working on a smaller scale by selecting portions of the Greater Prairie-Chicken habitat range where landowners are more supportive of management efforts.

Introduction

The rural landscape as a place for agricultural production, human communities, wildlife habitat, and recreation (among many other uses) holds significant potential for conflict; especially during the process of establishing management goals. Although numerous methods have been explored to address complex natural resource management issues, collaboration may provide the best potential for building consensus among the clashing values of people on the land (Margerum, 2008). Collaboration as a learning process allows for evolving methods to address complex, multi-party problems (Gray, 1989). However a collaborative approach to management does not guarantee the elimination of conflict or necessarily result in improved ecological conditions. However, using a collaborative approach has shown promise for responding to these challenges in rural landscapes across the U.S., including: the Nature Conservancy's efforts to restore grasslands in New Mexico's Malpai Borderlands region (Adams, 2006), U.S. Fish and Wildlife Service's efforts to protect critical Greater Sage-Grouse habitat in the northwest (US DOI, 2015), and more localized challenges such as efforts to protect farmland from conversion to urban development in Ohio (Koontz, 2005).

Government agencies now generally regard public participation as highly advantageous when making management decisions. Public participation can promote a healthy, transparent relationship between government agencies and private landowners, which is often necessary to promote collaborative natural resource decision-making (Fischer, 1995). Successful collaborative efforts benefit from involvement of local stakeholders and relationship building that leads to a more comprehensive landscape planning process and improved capacity for implementing plan recommendations stemming from a process that fosters relationship development between parties (Fischer, 1995). This study focuses on one initiative where the Wisconsin Department of Natural Resources (WDNR) has spent more than a decade working to build a collaborative partnership be-

tween government agencies, non-profit conservation groups, and landowners – known as the Central Wisconsin Grassland Conservation Area (CWGCA) Partnership—to protect and enhance grassland habitat for the Greater Prairie-Chicken (*Tympanuchus cupido*) and other grassland species. The research presented here sought to explore the beliefs and opinions toward collaboration held by stakeholders and government agents working in the Central Wisconsin Grassland Conservation Area (CWGCA) and to understand the barriers and opportunities available to improve the collaborative process in the CWGCA.

History of the CWGCA Partnership

Although not historically a grassland, the land in central Wisconsin has been shaped by human modification into a surrogate prairie that is home to the last remaining population of the Greater Prairie Chickens in Wisconsin. The timber harvests of the 1800s resulted in a landscape well suited for dairy and cattle production, which in turn provided habitat for the Greater Prairie-Chicken throughout southern Wisconsin in the early 1900s (Johnsgard 2002, Bellinger et al., 2003). Over 99% of Wisconsin's approximately 1 million ha of grassland habitat and related vegetative communities were lost by the mid-20th century (Ventura 1990). This demonstrates that Wisconsin has been subject to the same pressures leading to a national decline in grassland ecosystems due to conversion of land to agriculture, other forms of rural development, forest succession, and urban expansion (Sverdarsky, et al. 2000, Sample et al. 2003, WDNR Feasibility, 2004). Management for the Greater Prairie-Chicken can be challenging as geographically disparate research suggests that habitat quality is predicated on available residual cover for nests (Jones 1963, Robel 1970, Kirsch 1974, Buhnerkempe et al. 1984; but, see McKee et al. 1998) and a grassland composition that optimizes food and cover availability (Johnson et al. 2011). Additionally, the Greater Prairie-Chicken is an area-dependent grassland bird species (Samson 1980) and several authors suggest large tracts of contiguous prairie for effective management of prairie grouse (Hamerstrom et al. 1957, Fuhlendorf and Engle 2001).

In the context of central Wisconsin, surrogate grasslands prove challenging as weather and soil types may limit management practices intended to mimic abiotic processes driving prairie grouse demographics. Furthermore, the Greater Prairie-Chicken is perceived as a potential umbrella species because of its need for large expanses of undisturbed grassland (Poiani et al. 2001). Effectively managing for Greater Prairie-Chicken life-history requirements is conducive to providing suitable habitat for numerous other grassland species, such as Bobolink (*Dolichonyx oryzivorus*), Eastern Meadowlark (*Sturnella magna*), Short-eared Owl (*Asio flammeus*), Regal Fritillary butterfly (*Speyeria idalia*), Clay-colored (*Spizella pallida*) and Savannah Sparrow (*Passerculus sandwichensis*). As the population of the Greater Prairie-Chicken has plummeted, concern over the condition of remaining grasslands and grassland dependent avian species has grown. Further changes in land use exacerbating fragmentation effects or removing remaining grasslands may con-

tribute to their decline (Bellinger et al., 2003) which is already complicated by related genetic and demographic issues (Bouzat et al. 1998, Westemeier et al. 1998).

During the 1940s and 50s, Drs. Fred and Fran Hamerstrom developed a conservation vision leading to the creation of a public-private partnership to manage grasslands in central Wisconsin. Their recommendation suggested that well-planned landscape patterns (i.e. ecological scatter patterning) were equally important to the existence of large contiguous blocks of grassland habitat (Hamerstrom et al. 1957). In the early 2000s, the WDNR along with other agencies began taking a more active leadership role in the CWGCA with the specific goal of managing for grassland bird species at multiple spatial scales (Sample et al. 2003). This project area includes six Wisconsin counties (Taylor, Wood, Clark, Adams, Portage, and Marathon) and four state wildlife areas (Leola Marsh, Buena Vista, Paul J. Olson, and George Mead) (WDNR, 2004, *a*). The CWGCA contains approximately 22,000 acres of publicly managed grassland buoyed by these wildlife areas. However, research suggests that grassland bird populations and community structures are negatively impacted by habitat loss and fragmentation (Samson and Knopf 1994, Herkert 1995, Coppedge et al. 2001, Brennan and Kuvlesky 2005). Furthermore, there is strong geospatial evidence showing that the available acres of contiguous grassland in central Wisconsin are not enough to conserve grassland species from continued decline (Sharp & Thompson, 2013).

The management challenges facing the CWGCA Partnership are not unique in the context of a Midwestern landscape of the U.S. as conservation objectives are being pursued within a productive agricultural region. Yet, it is important to note that the central Wisconsin agriculture practices (e.g. rotational grazing) have allowed for, and may continue to provide, overlapping benefits to grassland wildlife species and private landowners. While much of the benefits to grassland species is the result of farming practices in the region, efforts to involve agricultural landowners in the CWGCA partnership have seen little success and challenges to involve these landscape stakeholders remain.

Collaborative Habitat Management

The WDNR initiated and continues to lead the CWGCA effort with the objectives to establish more grassland habitat and maintain the open landscape of central Wisconsin (WDNR, 2004, *a*). Since 2004, the primary method of increasing grassland acreage is through a variety of initiatives run by government agencies, including the Farm Service Agency, Natural Resources Conservation Service, U.S. Fish and Wildlife Service, and County Land Conservation Departments, to promote grassland management on private lands. Meanwhile, the WDNR's primary method of increasing acreage is to acquire land and encourage property owners to enroll into temporary programs (such as the Conservation Reserve Program), promote conservation easements, or participate in other conservation programs. In 2004, the WDNR conducted and distributed the Feasibility Study and Environmental Analysis for the CWGCA that helped inform the development of a ten-year

Wisconsin DNR Greater Prairie-Chicken Management Plan (WDNR, 2004, *b*). Consistent with a resilience thinking approach to landscape management, this plan recognized that the grassland system must be maintained on both public and private land to withstand unforeseen disturbances of this ever-changing landscape (Walker and Salt, 2006). This integration of government and private lands is particularly important in the CWGCA because current protected acres represent approximately six percent of total available grassland in a six-county area (Sharp & Thompson, 2013).

As the end of the ten-year management plan laid out by WDNR in 2004 has passed, there are questions about the success of these initiatives to protect grasslands in central Wisconsin and stem the loss of Greater Prairie-Chickens in Wisconsin. There are also additional opportunities to improve management in the next management plan. The plan has succeeded in increasing acquisition and management of grassland acreage, perhaps as result of numerous outreach efforts to build local awareness (e.g., Prairie Chicken Festival, school programs, viewing blinds, etc). Yet the amount of increased acreage has been insufficient to reverse Prairie Chicken declines, some landowner opposition remains, and the public by and large has not responded to invitations to participate in the process.

The challenges mentioned above may stem from factors that government agencies commonly face while working with the stakeholders nationwide. These factors include: 1) information that is commonly slow to disseminate amongst stakeholders through large bureaucracies, 2) structural factors, such as how power is shared amongst stakeholders and decision-making roles and responsibilities, and 3) structured flow of communication, such as horizontal, top-down, bottom-up (Koontz and Bondine, 2008). Other barriers that government agencies experience while working with stakeholders include: how problems are framed (thus solutions formed), how a conflict is interpreted (thus resolutions shaped), and the motives (and ulterior motives) of partners involved (Gray, 2004). Moreover, top-down technical decision-making often associated with large bureaucracies is problematic because it is frequently perceived as "being made by far-off, faceless bureaucrats with little knowledge of, or concern for how those decisions affected local conditions" (Sabatier et al., 2005, p. 5).

Methods

To meet our objectives, a mixed-method social science based approach was implemented. The research team conducted in-depth, semi-structured interviews to elicit major themes related to past collaboration and communication and then used those data to create a survey with the purpose of gathering insights from government agents that have had professional experience working within the CWGCA (which makes the quantitative aspect of research).

Qualitative Research Methodology

Semi-structured interviews were conducted in-person during the 2012 Greater Prairie-Chicken Festival weekend. Interviews were audio recorded with consent and the identities of par-

ticipants were withheld to encourage unbiased response to questions. In-person interviews are well suited for situations where the research interests are well defined and dependent on gathering information from a broad range of informed participants and provide an in-depth source of information appropriate to the dynamic and complex nature of research (Baxter & Jack, 2008). Interviews were conducted during the festival weekend because it brings together many knowledgeable, experienced, and active stakeholders into one location with a focus on one topic (in this case, the CWGCA and the Greater Prairie-Chicken). The interviewing methodology used to determine who was to be interviewed (the sample) utilized snowball sampling to select interview subjects. Interview questions were developed with the assistance of a key informant, who served for nearly a decade as the CWGCA Partnership Coordinator with a local non-profit conservation organization. The key informant was selected based on the qualifications, longtime tenure of working with multiple stakeholders in the CWGCA, and available resources (including a stakeholder register and knowledge of decision-making in the past).

Interviewees were asked about perceived barriers of, and opportunities for, the CWGCA partnership. The research team, with the help of the key informant, decided the precise wording to help prompt responses from interviewees about collaboration in the CWGCA, including:

1. How well do you believe government agencies are able to cope with various landowners needs?
2. Can you evaluate the effectiveness and cooperation of the agencies and organizations working in the CWGCA?

Other questions asked about the ideas or strategies that can be implemented to promote the CWGCA partnership and the improvements that can be made to enhance CWGCA partnership efforts were also asked. Responses to these questions were transcribed from the recorded audio and were analyzed using grounded theory's constant comparison methodology (Strauss & Corbin, 1990) through the QSR qualitative research analysis tool, NVivo (NVivo Qualitative Data Analysis Software, QSR International Pty Ltd. ver. 7, 2006, Doncaster, Victoria, Australia). This qualitative analysis began with open coding of data, which involves evaluating and separating them into themes (or 'binned' statements) that convey perspectives associated with the respective phenomena described by the interviewee. The analysis can be viewed as a way to separate the interviews into individual thoughts and when viewed with statements of all respondents, categorizing them into themes. Each theme showed multiple perspectives and at times how a theme may relate to another. Data that covered multiple themes were categorized into multiple categories if they conveyed multiple phenomena. Axial coding was then used to connect themes into an organized continuum conveying properties of each theme (Strauss & Corbin, 1990). The analysis resulted in a list of themes aggregated from all interviews, and the perspective held by participants on that theme (as shown in Table 1).

Table 1. Qualitative Analysis Results

Theme	Description (*common responses associated with theme*)	Frequency
Agricultural / Wildlife Views	Land-use management, partnerships, land acquisition.	Mentioned = 56 total; (n= 7 of participants who mentioned the theme)
Communication	Agents training and outreach abilities, overnment agency coordination, speaking with farmers.	Mentioned = 17 total; (n= 5 of participants who mentioned the theme).
Constraints	Macro-economics, farm-bill incentives, agency funding, landowner stewardship, program eligibility, commodity prices.	Mentioned = 55 (n = 11 of participants who mentioned the theme).
Strategies	Market driven fixes, technological fixes, Agricultural fixes.	Mentioned = 9 (n = 3 of participants who mentioned the theme).
Trust	Mistrust and negative views of government agencies, taxation, public participation.	Mentioned = 57 (n = 11 of participants who mentioned the theme).

Quantitative Research Methodology

To build a further understanding of the themes identified through interview analysis and to validate interview results, we developed a web-survey to distribute to government agents to further explore areas for improvement. This was done by operationalizing qualitative results into testable survey variables. The intent of this web-survey was to assess government agents' beliefs associated with government agent / landowner relations. We distributed the web-survey in a four-wave contact via e-mail as adapted from Dillman (2007) to a population of 116 government agents (federal, state, and county). The emails contained an introductory letter and a link to the web-survey and were sent to those that currently are, or had worked on CWGCA issues over the last seven years on a professional level. The mailing list of government agents was compiled through the CWGCA Partnership stakeholder register, which had been developed over the course of the previous seven years of interaction by our key informant. Respondents were asked to rate the following statements pertaining to landowner input in the CWGCA partnership on a five-point Likert scale (–2—strongly disagree to +2—strongly agree):

1. Landowners provide valuable input for decision making.
2. CWGCA management decisions tailor priorities of the landowner into each decision.
3. Landowners are involved in making management decisions in the CWGCA.

Survey respondents were also asked to provide binary feedback (by responding yes or no) on their own farming knowledge and background to each of the following:

1. Did you grow up on a farm?
2. Do you have experience working on a farm?
3. Do you have experience managing a farm for over a year?

If a respondent answered a survey question with 'Don't Know' or 'Refused', we removed that answer before any analysis. Survey data were statistically analyzed with frequency distribution and an analysis of variance (ANOVA) test to identify key differences affecting interactions between agents and landowners using the Statistical Package for Social Sciences (SPSS, ver. 21).

Results

This section provides a description of the results from data collected during stakeholder interviews (qualitative analysis) and the web-based survey of government agents (quantitative analysis) who are all engaged in the CWGCA partnership.

Semi-Structured Interviews

A total of twelve interviewees yielded 15,512 words transcribed verbatim and checked for errors. Interviewees included three representatives from the Wisconsin DNR, two retired employees from the DNR, two members of the same conservation organization, two local grazing experts (private business owners), a retired USFWS agent, a county representative, and an author on grassland bird species.

Data analyses resulted in a wide variety of perspectives on the history and future of the CWGCA, including aspects of government agent communication, economics, land use and management, public involvement, and value differences among agricultural producers and wildlife conservationists. The analysis revealed many themes (such as constraints, strategies, and agricultural and wildlife views); however, the constructs of public participation and communicating with farmers emerged from the data as particularly relevant to the objectives of this research.

Public Participation. As previously mentioned, there are currently not enough public acres to conserve many grassland species (such as the Greater Prairie-Chicken) from continual decline and that the grassland system must be maintained on both public and private land in order to withstand unforeseen disturbance to the CWGCA. Recognizing the integral need for public involvement, five interviewees mentioned the limited level of public participation currently in the CWGCA Partnership. Of the five interviewees, one interviewee, a rotational grazing expert that does not work for a government agency but has actively attended CWGCA meetings, reflected on recent attendance at a meeting by stating "There were only two guys besides the private landowners that were sitting at that meeting that said anything to help out private landowners in the immediate area. There must have been 30 or 40 people there, State, County, Federal officials, and all they said was acquisition, acquisition, acquisition." This perspective conveys a frustration that solutions remain focused on public land management resolutions and alternatives that may engage agricultural landowners are not being explored. In contrast, a county representative made observations on the difficulties that the DNR is faced with, stating ". . . the DNR is between a rock and a hard place with budgets and with how things are going. Ideally, they are

trying to work with local landowners, but that's not always easy . . ."

In regards to collaboration with the public, a retired USFWS agent reflected on the years of service and experience stating, "I think that agencies have to be more open to collaboration and not just go into a community and feel that they are the power. They have to open up and get buy-in from everybody and see both sides of the situation . . . so if you can get to that point of collaboration I think that you are going to have a much stronger effort in conservation." This retired USFWS agent echoes the idea of stakeholder buy-in, one of the key benefits public participation can provide.

Communicating with Farmers. There were seven interviewees that mentioned twenty-five times the topic of government agents' ability to communicate with rural landowners, especially with those who farm as their primary occupation within the CWGCA. The researcher asked interviewees whether or not government agencies are able to cope with the various landowners needs. Multiple interviewees (self-identifying as government agents) shared problems that their respective agencies face. A WDNR Wildlife Biologist stated "It would be great if we had more tools or abilities to communicate with the farming community on a local level, because they are not all the same . . ."

One interviewee, a member of a conservation organization, spoke about the importance of in-person communication, stating "They [government agencies] don't have enough individuals to follow-up on leads . . . you can't send them brochures in the mail if you don't have people on the ground looking the farmer in the eye and talking to him on his own terms."

A different WDNR Wildlife Biologist stated the importance of technical knowledge and credibility as precursors to collaboration when speaking to farmers by stating a rhetorical question, asking "If I walked in right now and tried to deliver a program [to a farmer] and couldn't even answer a simple question about grazing with a farmer, you know, what would he think of me?"

The statements above suggest that communication issues may be hindered by a lack of farming knowledge among government agents, or an inability of those with this knowledge to spend time directly working with landowners.

Government Agents Survey

Fifty-three government agents (46%) responded to the online survey, an acceptable response rate for online surveys (Dillman, 2007). Responses were received from individuals representing the following organizations: Wisconsin Department of Natural Resources (n=26), USDA Natural Resources Conservation Service (n=12), County Land and Conservation Departments (n=9), US Fish and Wildlife Service (n=3), USDA Farm Service Agency (n=2), and Wisconsin Department of Transportation (n=1)—all of whom were identified as participants in the CWGCA Partnership register.

Farming Knowledge. Based on the interview responses described above, the survey was designed to understand the level of farming knowledge among government agents. An Analysis of Variance (ANOVA) test was run to compare the mean scores of the three age groups identified within the survey responses resulting in groups representing individuals 39 and under, 40 to 49, and those 50 years of age or older (as shown in Figure 1A).

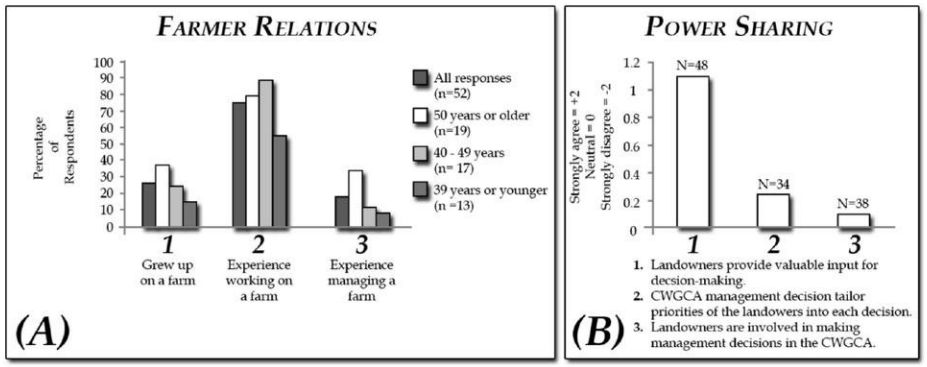

Figure 1. (A) Survey frequencies conveying government agent's history of working in a farming occupation. (B) Survey frequencies conveying the mean responses government agents provided in terms of sharing power with landowners.

The purpose of the ANOVA analysis procedure was to test the hypothesis that more experienced agency staff, identified here as those nearer to retirement age, have more direct experience with farm management. Responses to the survey showed that 33 percent of agents 50 years or older had experience managing farm operations for a year or more, whereas only 8 percent of the agents 39 years or younger had this experience. A total of 88 percent of the agents age 40 to 49 had experience working on a farm, whereas only 54 percent of agents 39 years or younger had that experience. The ANOVA revealed that there is a statistical difference at the 0.05 significance level ($F = 5.10$, $p = 0.01$, $df = 2$) for the question 'Have you ever managed a farming operation for a season or longer?' and at the 0.10 significance level ($F = 2.77$, $p = 0.08$, $df = 2$) for the question 'Have you had experience working on a farm?' Between group comparisons were run using Tukey's post hoc procedure, which is best suited for analysis where all pairs of means are available for comparison (Stevens, 1999). Examining the results of the post hoc tests revealed that individuals over 50 years of age are more likely to have managed a farming operation than those were between 40 and 49 years (mean difference = .48, Sig. = .02) and those 39 and under (mean difference = .45, Sig. = .03). There was no difference identified in management experience between the two younger age groups. For the question of experience working on a farm this pattern repeats where we see no significant difference between the two younger age groups, but there also isn't a difference between the two older age groups. The only statistically significant difference is between those 50 years of age and older and those 39 years and younger (mean difference = .40, Sig. = .07).

For the final question related to farmer relations, we did not see a statistically significant difference in the ANOVA between groups ($F = 1.38$, $p = .268$, $df = 2$) for the question, 'Did you grow up on a farm?' As shown in the graph for agents 50 years or older 37 percent grew up on a farm, while agents between the ages of 40 and 49 the results show that 24 percent grew up on a farm, and for agents 39 years

and younger only 15 percent grew up on a farm. While not statistically significant the trend is that older individuals responded more positively to this question than younger agency staff. These results suggest that younger government agents have less first-hand experience in farming operations, highlighting a growing challenge for agency-landowner interactions.

Landowner Input. The results, as shown in Figure 1B, address how government agents perceive landowner participation in CWGCA management decisions. There was widespread agreement with the statement "Landowners provide valuable input for decision-making" (mean = 1.1). However, there was a shift towards neutrality as statements became more specific towards sharing power or direct involvement of landowners. For instance, responses to the statement "CWGCA management decisions tailor priorities of the landowners into each decision" yielded only slight agreement (mean = 0.24) whereas a near neutral response was given to the statement "Landowners are involved in making management decisions in the CWGCA," (mean = 0.11). The lack of response for some of the statements can be attributed to respondents answering that they do not know, further displaying the uncertainty that agents have in the current level of public participation. There was no significant difference between age groups in the response to these questions (Q1: $F = 0.29$, $p = 0.74$, $df = 2$; Q2: $F = 1.10$, $p = 0.35$, $df = 2$).

Discussion

Survey results show that government agents working in the CWGCA may be losing their collective farming knowledge as those 50 and older retire and younger agents take their place. While even among those 39 and younger, more than half reported having some experience working on a farm. However, the lower percentage of direct farm experience among younger agency staff may present a significant barrier to working with agricultural landowners. The qualitative findings suggest that practical first-hand knowledge is essential to establishing communication with farmers. These findings further suggest that the decline in direct farm experience may actually present a significant challenge to collaboration between landowners and farmers. This research conveys that government officials recognize that they need more help to communicate effectively with the realization that technical knowledge of farming is an important aspect to communication. As agents are retiring, their roles are being fulfilled by those that have less farming background. Furthermore, landowners have expressed that their land management values are not shared or comprehended by some agencies.

With the findings expressed above, conclusions are two-fold:

- Government officials are not communicating with farmers as effectively as they believe that they could be.
- Although some landowners are using their property to actively execute the CWGCA landscape management initiatives, those same landowners have limited ability to participate in the management decision-making process. Without reciprocity, landowners in general are not likely to respond to requests or invitations from govern-

ment agents, or may even discontinue providing grassland habitat on their land in the future.

Another factor complicating the CWGCA partnership is the limited opportunities for true collaboration between government agents and landowners. Our research illustrates that government agents generally believe that the landowners of the CWGCA provide valuable grassland management input. However, there is uncertainty among government agents as to the public's role in management decision-making. This suggests that there is not a clear governance structure for making decisions based on public participation in the CWGCA. Without a clear structure that shows how managers will utilize public involvement, landowners may see public input as simply being used only when it fits an agency's philosophy. This brings into question the legitimacy of asking for public involvement and whether agencies are guilty of simply going through the motions of involving stakeholders (Davenport et al., 2007).

Furthermore, there are several reasons why government agencies may be reluctant to share power, including: concerns that the time necessary to make decisions might increase, that special interest groups might take over the process and not represent the best interest of the public, and that the public might lack the technical background for effective decision-making (Depoe et al., 2004). Care must be taken to develop a culture of collaboration within public agencies because efforts to force natural resource managers to gather input from the public creates a culture of compliance that misses the ultimate goal of collaboration, which is shared ownership by all stakeholders (Bryan, 2004).

With the findings expressed above, conclusions in regards to collaboration are:

- Landowners have differing perspectives on effective management goals than those of agency initiatives. Landowners may provide opportunities to promote CWGCA management goals, yet government agencies are not entirely recognizing that point, nor are they providing landowners an adequate opportunity to do so.
- Stakeholder buy-in is integral to effectively accomplish CWGCA management objectives.

Management Recommendation

There is no set path, or single approach, to resolving the barriers to collaboration between agency staff and private landowners in the CWGCA. A single program or management prescription (even those calling for large increases in public land acquisition) are not enough to generate the capacity necessary to make a positive impact on Greater Prairie-Chicken populations or other grassland bird species. As we examined the past, it is clear that an information gap (perhaps of understanding, clear communication, or common vision) exists between key stakeholders, which further increases the separation between landowners and agency staff working to achieve conservation objectives. The roots of this conflict respond at a basic level to the different priorities at work in this landscape, a frequent challenge facing resource management efforts. However, this research also suggests that the conditions in the CWGCA are also about

the ability of different groups to communicate and trust the actions of others. When both sides fail to see the contributions of the other or have no clear communication channel for engaging in productive dialogue, the efforts to build a network of public and private lands to stem the decline of Greater Prairie-Chicken are likely to plateau.

Especially in the agriculturally dominated landscapes, private landowners are key stakeholders for the long-term success of the collaborative efforts to manage wildlife habitat. The results of our survey and interviews clearly revealed that agency staff working in the CWGCA see the value of landowner input in management decisions, but currently they may need training and policy guidance about how to effectively seek and apply input from various stakeholders. We need to work toward better understanding the priorities of the farmers and other rural landowners who are ultimately responsible for managing the majority of the landscape.

Enhancing the opportunity for shared dialogue is a necessary step forward; however this is not easy (or it would already be occurring). The ability of agency staff to understand the challenges unique to farming this landscape is necessary for the development of a common vision that recognizes that this landscape is valued for more than just the agricultural services it provides, including the continued management of the Greater Prairie-Chicken and the other beautiful grassland flora and fauna inhabiting this landscape.

Based on the results of this study it is also clear that there is both value and a practical need for wildlife managers to have a strong working knowledge of farm practices and factors that influence farm decisions that impact land management. In short, we need to improve communication to find opportunities to work together to manage the rural landscape. In the CWGCA there is a sense of urgency to respond to grassland habitat loss that is felt primarily on the side of wildlife managers. Ironically, this urgency translates into a barrier that we are seeing played out, where the motivation can actually hinder the progress if essential agricultural needs are not clearly understood and met. This study revealed that even in rural Wisconsin, where farming remains a big part of communities, there is a decline in farming knowledge in the younger cohort of our public agencies. This trend is likely to become a greater challenge with an expected 40 percent of agents to retire in the next five years (Yaffee & Wondolleck, 2010). As a result, there is a need to build capacity to work with the agencies' younger cohort, but we must acknowledge that the success of collaborative action is impacted by perceived legitimacy of parties involved (Gray, 1989). In the context of managing for wildlife in the agricultural landscape, government agents must be knowledgeable about farming or find quickly that many landowners will not respect the individual wearing the agencies' emblem. We cannot replace the experience of growing up on a farm (overall the trend continues that fewer people in the U.S. will have this opportunity), but we have to be responsive and make sure that part of the time spent is "rubbing elbows" with farmers, learning more about their practices, needs, and priorities to manage the rural landscape for the multiple priorities it can provide.

So how can those respond whose concern lies with addressing threats to the sustainability of the remaining Greater Prairie-Chicken populations and seeing

the continued presence of their mating behaviors that attract visitors to Central Wisconsin each spring? As it was more than a generation ago when the Hamerstroms made recommendations for the long-term protection of this grassland, the time has come for a new vision that responds both to the biological needs of the species dependent on this surrogate grassland community while simultaneously responding to the priorities of those private landowners who own the remaining grasslands that support them. Again, this is not an easy task and success will require a different approach that emphasizes sharing decision making with local stakeholders (including private landowners), broadening the range of concerns addressed by the management plan to include consideration of goals and objectives that differ from those established for Greater Prairie-Chicken populations, and working to create an environment of co-learning where the level of awareness of both Greater Prairie-Chicken and agricultural concerns grows amongst those engaged in the process.

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This basic-plumage Common Loon stayed above the water in Dane County long enough for Jeff Galligan to get this shot in mid-November 2015.

The Effects of Building Size, Window Area, and Development on Bird-window Collisions in an Urban Landscape: A Preliminary Assessment

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ABSTRACT

Increased urban development throughout the United States has resulted in greater levels of mortality for many avian species caused by bird-window collisions (BWCs). Current annual estimates of BWCs are very broad and often do not account for the influence of various factors such as building size, window area, window reflectivity or transmittance, proportion of development or bird habitat near buildings, and species vulnerability. During this preliminary study, we assessed how building type and features, environmentalland cover surrounding buildings, and species factors were related to fatal BWCs. In the fall of 2014, we documented the number of bird carcasses resulting from window collisions at six study buildings on the University of Wisconsin–Platteville campus. We conducted daily carcass surveys around the perimeter of each study building for 21 consecutive days (18 Sep through 8

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Oct) during the fall migration season. As a result, eleven carcasses were recovered comprising seven known and one unknown species. All but one carcass was found at the two largest buildings; these that also had the greatest window area. BWCs were unrelated to window reflectivity, window transmittance, or land cover around the buildings. The Ruby-throated Hummingbird (Archilochus colubris) *was the most prevalent species found (27%). We recommend that further research be done to clarify the impact of window reflectivity, transmittance, and land cover types on BWCs. To minimize the risk of BWCs, as well as promoting avian conservation, we offer suggestions (e.g., ultraviolet signal stripes and landscaping) on how to limit the number of fatalities that occur due to window collisions.*

Introduction

Urbanization permanently changes the structure and functions of ecosystems, affecting wildlife populations and diversity (Hager et al. 2013). Urban areas often have complex spatial arrangements including differing amounts of resources and developed spaces that create a patchy environment (Hager et al. 2013). The threat of bird-window collisions (BWCs) varies in this patchy urban landscape and is potentially influenced by different building variables and proximity to suitable habitat. As a result, species affected and the magnitude of BWCs should also vary throughout the landscape (Hager et al. 2013). Vegetation in close proximity to windows increases the probability of BWCs occurring by concentrating a greater abundance of birds near the windows (Hager et al. 2008). Additionally, vegetation is mirrored in the window's reflection, which might give birds the false impression of actual habitat (Klem et al. 2004; Klem 2009; Erickson et al. 2005).

Migration is a risky but crucial behavior. During passage, high amounts of energy are required and birds must navigate complex and often unknown landscapes in search of food and shelter (Heglund and Skagen 2005). Consequently, migratory birds often are more vulnerable to BWCs than resident species (Hager et al. 2008, Hager et al. 2013). This can be especially true for naïve juveniles migrating through an area for the first time.

Previous studies have typically focused on buildings that were already known to have high rates of BWCs. Klem (1990) estimated 1–10 birds are killed annually per building, which is consistent with the estimates of Loss et al. (2014) that 365 to 988 million birds are killed each year in the United States due to window collisions. However, this assumes that all buildings in the United States have the same mortality impact on birds regardless of their individual features. Hager et al. (2013) found that each building has its own individual mortality rate, which is determined by various factors (e.g., window area and the amount of vegetation near a building) that are strongly correlated to with BWCs. As a consequence, there might be substantial spatial variation in BWC mortality, and overall mortality rates could be more accurately determined when more of the factors that affect BWCs are known for each specific building (Hager et al. 2013).

Window reflectivity and landscape vegetation are two of the greatest contributors to BWCs (Klem 1989, Klem et al. 2009). Klem (1989) hypothesized that windows' reflectance of the surrounding habitat can influence BWCs because birds do not recognize win-

dows as an obstacle to flight. Experiments have shown that certain features within the landscape such as lighting, available vegetation, and flight path obstruction could correlate with the frequency of BWCs (Klem 2006). In addition, availability of feeder sources, watering stations, and vegetation all increase bird abundance, which could increase BWCs (Klem 2009). Lastly, window area and building area might also have an impact on fatal BWCs as bird-window mortality should be directly affected by the amount of sheet glass present in the environment (Hager et al. 2013, Klem 2006).

This preliminary study was conducted by undergraduate researchers at the University of Wisconsin-Platteville (UWP) during fall 2014 to evaluate the differences in structural and environmental factors that characterize the magnitude and nature of BWCs on campus. Our objectives were to assess species vulnerability, as well as influences of window area, window reflectivity and transmittance, building size, and habitat availability relative to the quantity of documented BWCs.

Methods

Study Site, Building Selection, and Variables

Six study buildings were selected on the UWP campus. These buildings were stratified by different levels of green space (i.e., low and high) and size (i.e., small, medium, and large), and were at least 100m from one another (Figure 1). From polygons drawn in Google Earth around each building, we calculated the percent land cover composition (e.g., grass, woody vegetation, impervious surfaces, and other structures) within a 50m buffer using ArcGIS (ESRI, Redlands, California). Green space was defined as areas of woody vegetation and grass. Building area (i.e., total floor space) was calculated through direct measurements or was obtained from the campus planner via AutoCAD. Image J software (National Institute of Mental Health, Bethesda, Maryland) was used to calculate the total amount of sheet glass at each building. Windows located in areas that prevented bird carcass searches (such as those blocked by overhangs or low rooflines), screened windows (which prevent birds from striking the rigid glass surface), and the non-glass portions of windows (e.g., frames and mullions) were omitted from calculations. Visible light transmittance (VLT) (a measure of percent tint) and visible light reflectance (VLR) (a measure of percent reflectivity) were taken with a Pocket Detective Transmission and Reflectance Meter (Monroe Promotorcar Products, Auburn Hills, Michigan). Three measurements of VLT and VLR were taken at a representative window, then averaged to provide an estimated VLT and VLR for each building.

Carcass Surveys

On 17 Sep 2014, buildings were cleared of all bird carcasses that had accumulated prior to the commencement of our daily carcass surveys. Bird carcass surveys began on 18 Sep 2014 and continued for 21 consecutive days through 08 Oct 2014. Buildings were surveyed daily between 1500–1700 hours CDT. Two teams of two researchers each surveyed a small, medium, and large building. At each building, the starting and ending times of the survey were recorded. The team

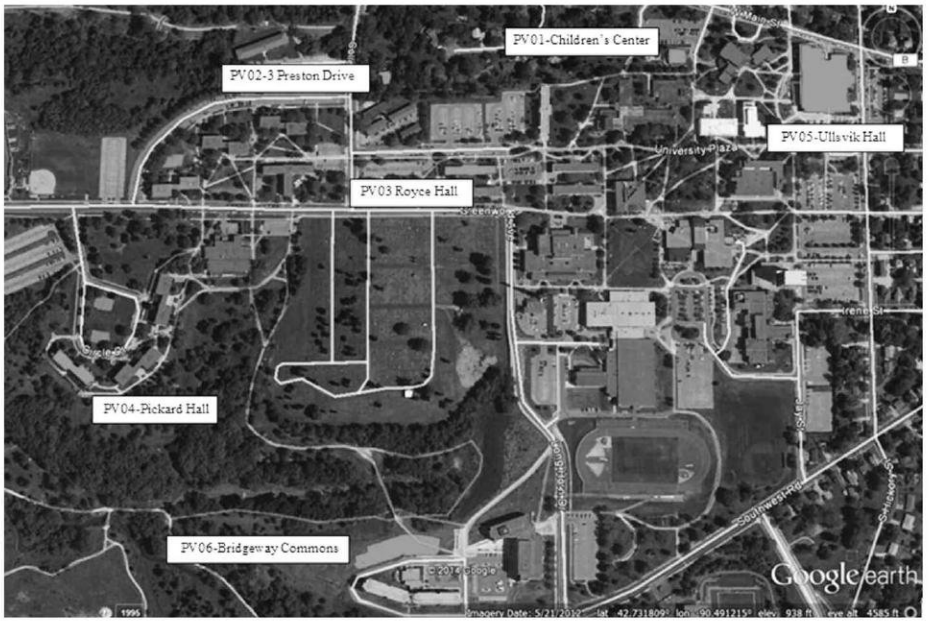

Figure 1. Six study buildings and their surroundings on the University of Wisconsin-Platteville campus assessed for bird-window collisions during fall 2014.

of two researchers then parted from a beginning location and walked in opposite directions (i.e., one clockwise and one counterclockwise) around the perimeter of the building searching for bird carcasses resulting from window collisions. Each researcher looked for bird carcasses on the ground or within vegetation in a 2m wide transect from the edge of the building. A bird carcass consisted of an entire specimen, part of a specimen, or feather pile. A preliminary efficiency study suggested that searchers located 52% of planted carcasses (R. Schmitz, University of Wisconsin-Platteville, unpublished data).

Carcass Collection and Containment

If a bird carcass was located, photographs of the ventral, dorsal, and lateral sides were taken for identification. A single photograph was taken for a feather pile. The carcass or feather remains were placed into a Ziploc bag, which was then contained in a second Ziploc bag along with a carcass identification tag that included the following information: date, building number, researcher ID, and carcass ID. All carcass remains were placed in a freezer for storage within a laboratory of the Biology Department. Bird carcasses were collected under the Wisconsin Scientific Collector's Permit #SCP-SOD-008-2013 (Wisconsin Department of Natural Resources) and Federal Salvage Permit #MB08907A-0 (U.S. Fish and Wildlife Service).

Results

During this study, 11 bird carcasses from seven known and one unknown species (unidentified feather pile) were collected during the 21-day survey pe-

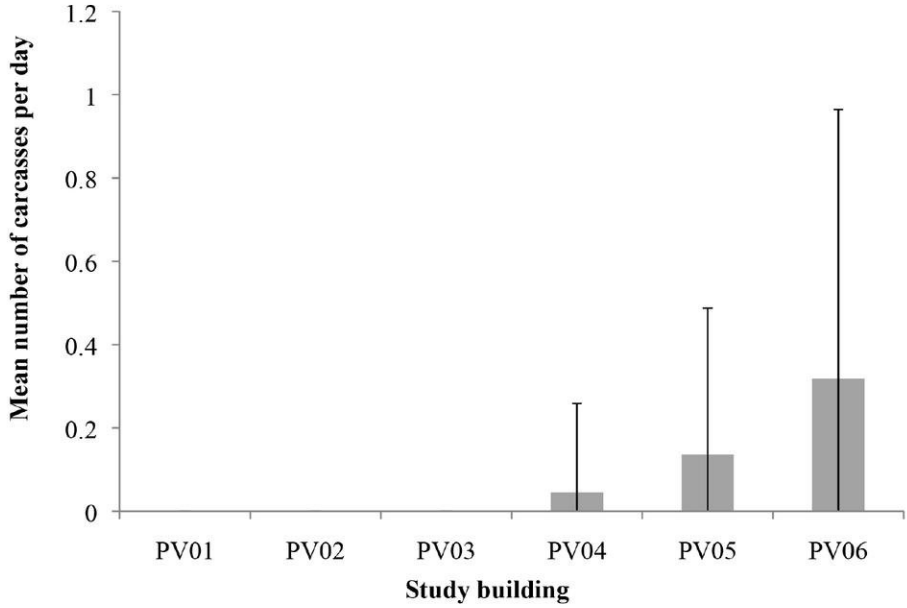

Figure 2. Mean bird-window collision carcasses recovered per day among study buildings (n=6) on the University of Wisconsin-Platteville campus during fall 2014. Error bars represent standard deviation.

riod (Table 1). The mean number of BWCs per day was 0.087. BWCs were observed at 50% of the study buildings, with seven of the eleven carcasses located at PV06 (Figure 2). All carcasses were recovered during the first 12 days. Of the seven documented species, six were Neotropical migrants and one was a permanent resident (Table 1). The Ruby-throated Hummingbird (*Archilochus colubris*) had the highest incidence of BWC mortality, with three carcasses recovered. The second most numerous species killed by BWC was the Tennessee Warbler (*Oreothlypis peregrina*).

Average total window area among the six study buildings was 302m^2 (range = 19–729m^2). The study buildings with the greatest window area (PV05 and PV06) accounted for nearly all the BWC fatalities (10 carcasses). No carcasses were found at buildings with window area less than 180m^2. Average floor space among the six study buildings was 6,209m^2 (range = 259–15,788m^2). Similar to window area, the two study buildings with the largest floor space (PV05 and PV06) accounted for nearly all of the BWC victims (10 carcasses). No carcasses occurred at buildings with less than 5,000m^2 floor space.

During this study, all bird carcasses were located at buildings with a VLR ranging from 73.7% to 90.0%, with a mean of 83.7%. The VLR factor did not influence the number of carcasses present at the study buildings. Among the six study buildings, VLT ranged from 44.9% to 80.9%, with a mean of 64.1%. As with VLR, VLT did not influence the number of carcasses.

Among the six study buildings, the proportions of woody vegetation and grass (i.e., green space) were highest at

Table 1. Avian species (n=7) and total number of carcasses (n=11) collected from fatal BWCs among six study buildings on the University of Wisconsin-Platteville campus during fall 2014. * = Neotropical migratory species.

Common Name	Scientific Name	Total
Ruby-throated Hummingbird*	*Archilochus colubris*	3
Ovenbird*	*Seiurus aurocapilla*	1
Tennessee Warbler*	*Oreothlypis peregrina*	2
Nashville Warbler*	*Oreothlypis ruficapilla*	1
Common Yellowthroat*	*Geothlypis trichas*	1
Chestnut-sided Warbler*	*Setophaga pensylvanica*	1
House Sparrow	*Passer domesticus*	1
Unidentified sp. (feather pile)	N/A	1

PV02 and PV04 with 85% each, and least were lowest at PV03 with 14%. Overall, there was no relationship exhibited between the proportion of each land cover type present and number of bird carcasses.

Discussion

We hypothesized that certain species were substantially more vulnerable to BWCs than others. Of the seven known species that experienced at least one fatal window collision during this study, six were Neotropical migrants and one, a House Sparrow (*Passer domesticus*), was a non-migratory permanent resident. Interestingly, no carcasses were recovered from within North American migrant species (e.g., American Robin, *Turdus migratorius*).

O'Connell (2001) suggested that migratory species might be more susceptible to collisions than non-migratory permanent residents. Borden et al. (2010) indicated that generally long distance or Neotropical migratory species are more vulnerable to BWCs than short distance or North American migrants. According to the U.S. Fish and Wildlife Service, an estimated 350 species of Neotropical migrant birds are subjected to collisions with tall buildings across North America (Shire et al. 2000). Hager et al. (2013) found that 56% of all BWC victims recovered represented Neotropical migratory species, while 90% of the identified carcasses in this study were Neotropical migrants. However, these results might be biased by the timing of the study. The duration of the study period for this project was mid-September through early October, which corresponds to the peak period of fall migration (typically October through November) for Neotropical migrants through southwest Wisconsin. Consequently, the majority of this study was completed prior to the commencement of fall migration for many North American migrant species. It is likely that North American migrants would have accounted for a greater amount of BWC mortality if the study period had encompassed a more substantial portion of the fall season.

Some species (e.g., House Sparrow and European Starling, *Sturnus vulgaris*) are highly adapted to urban settings and are extremely abundant throughout these landscapes. However, in spite of being very numerous, few are ever victims of window collisions. Most

of these birds are permanent residents and might therefore be more familiar with particular urban environments. As a result, these species might be less vulnerable to collision mortality. Nevertheless, the only non-Neotropical migrant carcass recovered during this study was a single House Sparrow.

The Ruby-throated Hummingbird was the most abundant species experiencing window collision mortality during this study. The peak of fall migration for this species throughout southwest Wisconsin occurs during September (Robinson et al. 1996). According to Graham (1997), Ruby-throated Hummingbirds travel substantial distances during the fall in search of late season flowering nectar plants. This might bring them in close proximity to greater amounts of window area, thereby increasing the probability for collisions to occur (Graham 1997). Additionally, during the fall season Ruby-throated Hummingbirds are extremely protective of nectar plants and engage in high-speed aggressive chases to defend sources of flowering plants (Quinlivan et al. 1995). The combination of high-speed chases near relatively large amounts of window glass might result in elevated levels of BWCs for this species. The threat of collision mortality might be exacerbated at buildings where fall flowering plants are part of the landscaped vegetation.

Our preliminary findings support the window area hypothesis, which states that the more glass present on a building's exterior facade, the greater the potential for BWC mortality (Klem et al. 2009; Hager et al. 2013). We found that study buildings with the largest amounts of window area (e.g., PV04, PV05, and PV06) produced the greatest number of BWC fatalities. Hager et al. (2013) found no collision casualties occurring at buildings with <22 m^2 of total window area. On the UWP campus, only one study building (PV02) contained <22 m^2 of window area. Similar to Hager et al. (2013), we documented no casualties at this site. As it happens, during this study, no BWC victims were recovered from study buildings with <180 m^2 of total window area.

Hager et al. (2013) found that larger buildings with greater amounts of overall window area (i.e., commercial buildings) tended to experience increased numbers of BWC fatalities. During this study, the two largest buildings (PV05 and PV06) contained the highest amounts of window area (>700 m^2 each) and the largest amounts of floor space (>12,000 m^2 each). These two buildings accounted for 91% of the BWC carcasses recovered. It is often assumed that larger commercial buildings and skyscrapers have a considerable negative effect on avian populations due to BWCs (e.g., Hager et al. 2008). Loss et al. (2014) found that individual smaller buildings had significantly lower BWC mortality rates as compared to individual larger structures such as skyscrapers. However, since smaller buildings are substantially more numerous than large buildings, they might account for an overall higher proportion of BWC mortality (Loss et al. 2014). At this time, there is insufficient published research to determine how significant the impact of window collisions occurring at larger buildings is on various avian species and populations (Hager et al. 2008).

We found no relationship between window reflectivity and light transmittance to BWCs. It is possible that our small sample sizes (n=6 buildings; n=11

carcasses) might have been insufficient to detect the inherent risk to birds resulting from variations in window reflectivity and transmittance. More research is necessary to better understand the relationship between the various types of window glass and BWCs.

Although there were substantial differences among the six study buildings in our study in terms of development (i.e., impervious surfaces and building structures) and green space (i.e., woody vegetation and grass) occurring in the immediate building vicinities, we detected no relationship linking BWC mortality and land cover types. Hager et al. (2013) determined that birds were more abundant at buildings with lesser amounts of adjacent development and with forested areas or habitat patches nearby. Approximately 64% of all carcasses detected during this study (n=7) were located on the north side of PV06. A substantial forested area occurs north of this building, but was just beyond the 50m buffer zone that was assessed for land cover types during this study. We hypothesize that this patch of habitat was the source of our window collision victims. Therefore, we propose that future research consider larger zones around study buildings for land cover type assessment, since the influence of habitat on BWCs might be more variable and might possibly extend a greater distance from buildings. It is likely that these patches of habitat support larger and more diverse avian communities and might be a potential factor driving the BWC phenomenon (as per Hager et al. 2013).

During this study, BWCs were more common at buildings with larger amounts of window area and floor space. This suggests that each building type, independent of the environmental factors in the immediate landscape, might possess an individual BWC potential. Hager et al. (2013) indicated that each building has a "mortality signature," determined by comparing the known drivers of BWCs to a building's annual mortality rate. Since the mortality potential of each building type varies little over time, it is therefore easier to predict the mortality rate due to window collisions from one environmental landscape type to another (Hager et al. 2013).

We recognize that this was a preliminary study and that future research should monitor a larger number of buildings for a longer period of time to increase sample size and assess temporal variability in BWCs. Additionally, future studies could focus on buildings with varying degrees of window reflectivity and transmittance, which will permit the influence of these structural factors on BWC mortality to be better understood. The majority of prior BWC studies have focused primarily on the influence of factors such as building size, window area, and surrounding land cover type on mortality rates. Designing a study where these factors are constant while window reflectivity and transmittance varies would permit an examination of how these window glass variables impact BWC mortality rates.

Implications

The primary goal of BWC research is to better understand the causes and magnitude of this type of mortality in order to develop strategies aimed at minimizing the impact of this form of man-made avian mortality, thereby allowing us to better conserve and manage our avian resources. As a result, BWC research has produced several

methods that might substantially reduce BWC fatalities. For example, Klem (2009) stated that one of the best methods for preventing BWCs is to install ultraviolet (UV) signal strips in window glass, which results in UV light being absorbed in some portions of windows and reflected in others. These UV signals might alert birds to the presence of windows as barriers, since birds can visualize the UV spectrum between 300–400nm (Burkhardt 1982). Another BWC deterrent to consider is utilizing one-way windowpanes that are opaque on the outside and transparent on the inside (Klem 2009). Applying these two methods to larger buildings with greater amounts of window area might prevent BWCs in urban areas. One option that has been ineffective at BWC prevention, according to Klem (2009), includes hanging decals, strings, feathers, or other similar objects in front of window glass unless they nearly cover the entire glass surface.

Acknowledgments

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This Ruby-throated Hummingbird paused in the air for David Franzen in Vilas County in mid-August 2015.

50 Years Ago—Nancy Nabak

Autumn, 1966 Volume 28, Number 3

A Ribbon of Birds: On October 17, 1965, between Fond du Lac and Oshkosh on the west side of Lake Winnebago we saw, paralleling the highway, for a distance of about 5 miles a "ribbon" of birds. Maybe a flock of birds is not ordinarily described as a ribbon of birds, but these were strung out in a width of about six feet in a long, undulating, continuous line five miles long. What kind they were, I do not know for sure, but suspect they were blackbirds of some kind—Mrs. Russell Rill, Clintonville.

Visitor from the Past: On April 7, 1966, a winged visitor from the remote past came to Wisconsin. The bird, an Anhinga, is one of the "living fossils" that have defied time and evolution. The Anhinga, a female, was spotted in the lagoon section of Milwaukee's Whitnall park by Dorothy Bednarek and her son, Russell, of Brookfield. They notified Oscar Lemke, West Allis, a WSO member. (Published in the *Milwaukee Journal)*. Oscar Lemke takes it from there - "Immediately after receiving the phone call mentioned in the Journal item, I hurried to the park with photo equipment and hiked to the area of the 20-acre lagoon where the Anhinga was reported to have been seen. I arrived there about 3:30 p.m. and was pleased to meet the Bednareks who had discovered this strange visitor earlier that day. After "introducing" me to the Anhinga, they went home . . . It was perched off shore on a dead willow branch protruding from the water. After taking several 'assurance shots,' I slow motioned my way to a point 60 feet from the bird for more photos through the 400mm lens on my 35mm camera. She did some posing, -facing the camera, facing away from the camera with wings folded and displaying a prettily patterned back. She also posed with wings spread for drying. Occasionally it stretched its long neck forward, sometimes uttering a muttering sound, very likely directed to me. It also did considerable preening, but no swimming or feeding."

". . . Mrs. Irma Chipman in Wautoma mentions that in her area there were just four days in September that were free of rain. By the time weather conditions improved in October and November the large migrations had already passed through the state. The result was not a single observer having anything enthusiastic to say about this year's fall migration. Robbins summed it up best in commenting, "An awful lot of birds flew over us this fall, real low . . . but disappointingly small numbers of them could be found the next day." —Daryl Tessen

Golden-winged warbler: A late departure date of October 1 by Kemper.

Gambel's Sparrow: One banded and photographed by the Stockings on October 24 in Rock County.

This Greater Yellowlegs photographed by Jeff Galligan in mid-October 2015 stands with its reflection in shallow water in Columbia County.

The Fall Season: 2015

Bob Domagalski

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According to statistics compiled by the National Oceanic and Atmospheric Administration (NOAA), 2014 was the warmest year worldwide in recorded history. But this was a short lived record. The year 2015 was even warmer. Unlike the recent past, when the rest of the world was experiencing increased temperatures while the eastern United States had years of normal to less than normal temperatures, 2015 found the eastern United States (at least south to the Ohio River) warmer than average. This was due in part to a strong El Nino year. One must go back to the winter of 1997-1998 or even beyond to find an El Nino event of comparable strength. The pattern in past El Nino years was to have the northern half of the eastern United States warmer than normal. And that was the pattern this year also. Until August, which is the start of the fall season, Wisconsin was experiencing temperatures that were an exact match to historical averages. Starting with August, temperatures began to go above that average. As the year progressed, the gap between current temperatures and the historic average grew greater and greater. This gap continued to grow into the spring season of 2016. The result was that the winter of 2015–2016 was the warmest on record for the contiguous states of the United States, with temperatures averaging 4.6 degrees Fahrenheit above the historic average.

The warmer than average temperatures had an effect on the fall migration. Less hardy species, which would not have survived a normal fall season, were found to persist even into the winter season. A number of record late departure (or survival) dates were set. Also the state record late dates are cluttered with reports of near record lingering birds. One record that comes to mind is that of a Black-billed Cuckoo found on 14 November at Pheasant Branch in Dane County by Mike McDowell. This find was nearly two weeks later than any previous past sighting. Once the seasonal report for the winter of 2015-2016 comes to print, it will become clearer how often less hardy species were able to survive into the winter. Also likely due to the mild temperatures, especially north of Wisconsin in Canada, species of diving ducks were hesitant to depart their northern terrain and were thus difficult to find in any numbers in Wisconsin. Even as late as the CBC season, such ducks could not be found in their usual quantities. Since these warm temperatures continued into the spring season, the spring report should be rife with finds

of short distance migrants arriving in numbers earlier than normal.

There were ebird reports from all 72 counties. There were 9 counties with 200 or more species for the fall season, which is the same number as in 2014. Those 9, in order of how many species were found, were Dane (236), Milwaukee (229), Manitowoc (224), Ozaukee (224), Brown (222), Dodge (207), Waukesha (207), Racine (206), and Marathon (200). The top 8 of these counties have reported 200+ species in nearly every recent fall season. Perhaps for the first time in the history of the fall report, there was no county with fewer than 50 species. The lowest total came from Menominee (with 51) followed by Marquette (63), Sawyer (70), Pepin (73), and Price (74). In general (other than Dane and Waukesha) the highest totals of species tend to come from counties associated with a Great Lake, while lower totals tend to come from inland counties in the northwestern corner of Wisconsin. As in the past, the WSO thanks the birders at the Eagle Valley Nature Preserve in Grant County and the birders at the Forest Beach Migratory Bird Preserve in Ozaukee County for giving some insight into raptor migration. Also a major thanks to the Western Great Lakes Bird and Bat Observatory for having Calvin Bren-

nen give day by day sightings of the waterfowl migration along Lake Michigan from Harrington Beach State Park in Ozaukee County. Until recent years, such thorough day-to-day findings have never been attempted. They have given Wisconsin a fresh insight into what actually happens both for the fall and the spring migration of waterfowl along the west shore of Lake Michigan.

There were 308 species found for the fall season. This compares to a record high of 318 in 2014. This was an especially strong fall for flycatchers with reports for Ash-throated, Western, and Scissor-tailed. Other good finds included Harlequin Duck, Pacific Loon, Tricolored Heron, Black Vulture, Mississippi Kite, Purple Sandpiper, Black-legged Kittiwake, California Gull, Common Ground-Dove, Anna's Hummingbird, Lewis's Woodpecker, and Eurasian Tree Sparrow.

Reports
(1 August to 30 November 2015)

Species marked with "*" need documentation that is *sent to the records committee.*

Greater White-fronted Goose—There were five reports. Those five were 23–25 September at Lake Mills in Jefferson County (Stutz), 25 October at Goose Pond in Columbia County (Ron and Stuart Miller), 30 October in Outagamie County (Malcolm), 30 October through 1 November at the 6th Avenue Marsh in Adams County (Rick Anderson, Bontly, Goodman, and Vokoun), and 19 November at Harrington Beach SP in Ozaukee County (Brennan). The high count was five at several locations.

Snow Goose—The first find was 31 August and 1 September at St. Nazianz in Manitowoc County (Domagalski and Karen Schema) followed by 10 September at Indian Lake in Dane County (Holschbach) and 13 September in Waukesha County (Paget). Snow Geese were then found into the winter season. The high count was 175 on 20 October at Harrington Beach SP in Ozaukee County (Brennan) followed by 100 near Maribel in Manitowoc County (the Tricks) and 75 at Rock Lake in Jefferson County (Stutz).

Ross's Goose—As opposed to 2013 (when this goose was found in 10 counties) and 2014 (when found in 11 counties), the Ross's was reported from only three counties in 2015. Those three were Dane, Dodge, and Milwaukee with most reports coming from Dane. The first date was 27–30 September from Oregon in Dane County (many observers) with the last date being 29 November at Fish Lake in Dane County (Pope and Thiessen). All finds were of single birds.

Cackling Goose—Reported from 27 counties, which compares to 37 in 2013 and 31 in 2014. The first date was 11 September in the counties of Bayfield (Brady) and Manitowoc (Watson) followed by 12 September in La Crosse County (Teskie). This goose then continued to be found into the winter season. The high count was 100 on 25 November at the Trempealeau NWR in Trempealeau County (Chris Anderson) followed by 60 at Maslowski Beach in Ashland County (Brady).

Canada Goose—In the period 4–13 November there were a number of reports of 2,500+ at the Horicon Marsh in Dodge County with the high of 10,000 coming on 13 November (Drye). Outside of the Horicon Marsh the high count was 2,200 on 30 November at Stricker's Pond in Dane County (Bailey) followed by 2,000 on 12 October at Port Washington in Ozaukee County (Sher).

Mute Swan—Reported from 16 counties, which compares to 15 in 2014 and 16 in 2012 and 2013. Although a nesting species, the only finds in the latter half of July were 17 July in Ashland County (Lehner) and 31 July in Wood County (Grosse). The first report for the fall season was not until 11 August in Wood County (Morales). Despite this gap in dates, Mute Swans were confirmed for breeding in 2015 in the counties of Ashland, Door, Green Lake, and Racine. The high count was six on 4 November in Racine County (Horn). This was the lowest high since four in 1993.

Trumpeter Swan—Early season reports came from the counties of Adams, Burnett, Dodge, Fond du Lac, Iron, Juneau, Polk, and Vilas. These eight early season counties compare to seven in 2013 and nine in 2014. The high count was 88 on 2 November in Vilas County (Carne Andrews) followed by 60 on 30 November in Lincoln County (Verhasselt) and 57 on 29 November in Burnett County (Java).

Alyssa DeRubeis photographed this alert Northern Saw-whet Owl in Portage County in early October 2015.

This female Pileated Woodpecker paused long enough in Vilas County in mid-November 2015 for David Franzen to take this portrait.

Greg Hottman took this colorful shot in mid-August 2015 of a Black-billed Cuckoo overlooking its territory in Dane County.

Tundra Swan—An unusually early report was of one bird on 11 August at Bay Beach in Green Bay, Brown County (Kloepping). The next report was not until 11 October at Horicon Marsh in Dodge County (Obyrne) and Wisconsin Point in Douglas County (Jan and Larry Kraemer). Strong numbers of Tundra Swans then remained into the winter season. The high count was 1,000 on 20 November in La Crosse County (Stratton) followed by 850 on 20 November in Oconto County (Rickaby) and 500 on 21 November in Vernon County (Paul Hayes).

Wood Duck—As is customary Wood Ducks were found throughout the period, with a number of finds extending into the winter season. The high count was 322 on 27 September in Grant County (McKay) followed by 310 on 16 September at Myrick Marsh in La Crosse County (Allen) and 200 on 18 September at Potosi Landing in Grant County (Thiele).

Gadwall—The only late July and early August finds came from the counties of Burnett and Dodge with Atlas breeding confirmation in 2015 coming from the counties of Dane and Fond du Lac. As is normal, numbers of Gadwall remained into the winter season. The high count was 200 on 25 October and 9 November at the Trempealeau NWR in Trempealeau County (Karlson, Overacker, and Stratton) and 200 on 15 November in Buffalo County (Stratton) followed by 125 on 30 October at Horicon Marsh in Dodge County (Frank).

American Wigeon—The last July report of this uncommon nesting species was 24 July in Brown County (Swelstad); the earliest August report was 9–15 August at the Necedah NWR in Juneau County (Fuhrmann and Milender). The Atlas Project had no confirmed nesting of this species in 2015. As is common, numbers of this wigeon remained into the winter season. The high count was 500 on 20 October in Vernon County (Stratton) followed by 250 on 3 November in Vernon County (Duerksen).

American Black Duck—Early season reports of this nester came from the counties of Ashland, Brown, Burnett, Douglas, and Milwaukee. The high count was 15 on 4 August at Maslowski Beach in Ashland County (Milender) followed by 14 on 2 September at Bay Beach in Brown County (Ward). The high of 15 is the lowest high in the history of the fall season. The former lowest high was 39 in 2013.

Mallard—The only counts of 1,000 or better were 1,684 on 27 November at the Eagle Valley Preserve in Grant County (McKay), 1,500 on 12 November from the Milwaukee Lakefront (Stehno), and 1,200 on 8 August at the Horicon Marsh of Fond du Lac County (Brasser).

Blue-winged Teal—The last fall dates were of single birds found 7 November at Wind Lake in Racine County (Kinzer) and 11 November at the Mosquito Hill Nature Center in Outagamie County (Boyle). The high count was 287 on 28 September in Rock County (Boone). The nearest total to this was 150 on several dates in the latter half of August from the Horicon Marsh of Fond du Lac County.

Northern Shoveler—Early season reports of this nesting species came from the counties of Bayfield, Dodge, Fond du Lac, Marinette, and Outagamie. As is customary, numbers of Shovelers then remained into the winter season. Over the period of 16–30 November reports of 300 to 600 Shovelers came from Stricker's Pond in Dane County with the high of 600 coming on 26 November (Bailey). Over the period of 9–25 November reports of 400 to 450 Shovelers came from the Trempealeau NWR in Trempealeau County with the high of 450 coming on 25 November (C. Anderson). Other reports of 300+ were 300 on 30 October at Nine Springs in Dane County (Schwarz) and 350 on 26 November at Tiedemann's Pond in Dane County (Bailey).

Northern Pintail—There were no late July or early fall reports of this uncommon nester. The Atlas Project in 2015 found no confirmed nesting. The only August finds were in the period 27–29 August from the Horicon Marsh of Dodge County (first by Wood). Reports of Pintails then extended into the winter season. The high count was 215 on 26 October at Harrington Beach SP in Ozaukee County (Brennan) followed by 150 on 27 September in Grant County (McKay).

Green-winged Teal—The last fall find was 29 November at Pheasant Branch in Dane County (McDowell) followed by a scattering of sightings into the winter season. The only counts of 200+ were 271 on 23 October at Harrington Beach SP in Ozaukee County (Brennan) and 233 at Goose Pond in Columbia County (Mark and Sue Martin).

Canvasback—The only August report was of a single individual at the Cat Island Causeway in Brown County in the period 2–22 August (first by Sonneland and Swelstad). The first double digit count came on 14 October from Lake Koshkonong in Jefferson County (Bridge). In a typical fall this duck can be expected to be found by the thousands along the Mississippi River. This year the only total over 1,000 was an estimate of

50,000 on 9 November at Lynxville in Crawford County (Jan Collins). Nearest to this was 1,000 on 20 November at Lake Onalaska in La Crosse County (Stratton).

Redhead—Early season reports of this nesting species came from the counties of Brown, Dodge, Fond du Lac, Outagamie, and Manitowoc. As is to be expected, all high counts of Redheads came from locations along Lake Michigan. All counts of better than 200 were 350 on 30 November at Clay Bank in Door County (Schaefer and Szymczak), 325 on 14 November at Virmond Park in Ozaukee County (Frank), 275 on 28 October at Fox Point in Milwaukee County (Wanger), and 240 on 15 November at Virmond Park in Ozaukee County (Wood).

Ring-necked Duck—Unlike last fall when late July and early August finds came only from Racine and Vilas counties, this fall there were reports from Burnett, Door, Douglas, Outagamie, Monroe, and Tyler counties. As is normal, Ring-necked Ducks were found into the winter season. In the period 22–26 October counts of 800 to 10,000 were found at the Thunder Lake SWA in Oneida County, with the high of 10,000 coming on 26 October (Spahn). Outside of Thunder Lake, the high was 260 on 26 November at Middle Genessee Lake in Waukesha County (Szymczak).

Greater Scaup—As is now customary, a small number (one to three) Greater Scaup over summered in the city of Manitowoc (Sontag). By 12 August small numbers also began to show at Cat Island in Brown County (Paulios and Prestby). The next report was of one bird on 23 August from Bender Park in Milwaukee County (McKinley). The first double digit count was 9 September at Cat Island (Prestby) with the next such count outside of Cat Island not coming until 29 September in the counties of Milwaukee (Mooney) and Ozaukee (Brennan). Likely due to the unusually mild fall, scaup were delayed in migrating to Wisconsin. Whereas it is normal to find Greater Scaup along Lake Michigan by the thousands in late October and the month of November, there were no finds of 1,000 or better this fall. The fall high was a mere 270 on 7 November at Wind Point in Racine County (many birders) with the only other find over 100 being 130 on 30 November at Clay Bank in Door County (Schaefer and Szymczak). This high of 270 is the lowest high since 200 in 1987.

Lesser Scaup—The only reports from late July and early August came from Brown County. The only counties reporting this species in September were Brown, Douglas, Jefferson, Marathon, Ozaukee, and Rusk. It is to be expected that this duck would show by the tens of thousands along the Mississippi River but, perhaps, due to poor coverage the only high count from this area was an estimate of 25,000 on 9 November at Lynxville in Crawford County (Jan Collins). The only other location to report better than 100 individuals was on the opposite side of the state at Harrington Beach SP in Ozaukee County where the high was 215 on 26 October (Brennan).

Harlequin Duck—A Harlequin was documented for 20 August in Oak Creek, Milwaukee County by John Reddig. This was record early for the fall season. The only other August find in the history of the WSO was on 27 August at Concordia College in Ozaukee County by Bill Cowart. A single bird was found in the period 22–25 October in the Manitowoc Harbor (first by Sontag) followed by a single bird on 2 November at the Superior Harbor in Douglas County (the Kraemers).

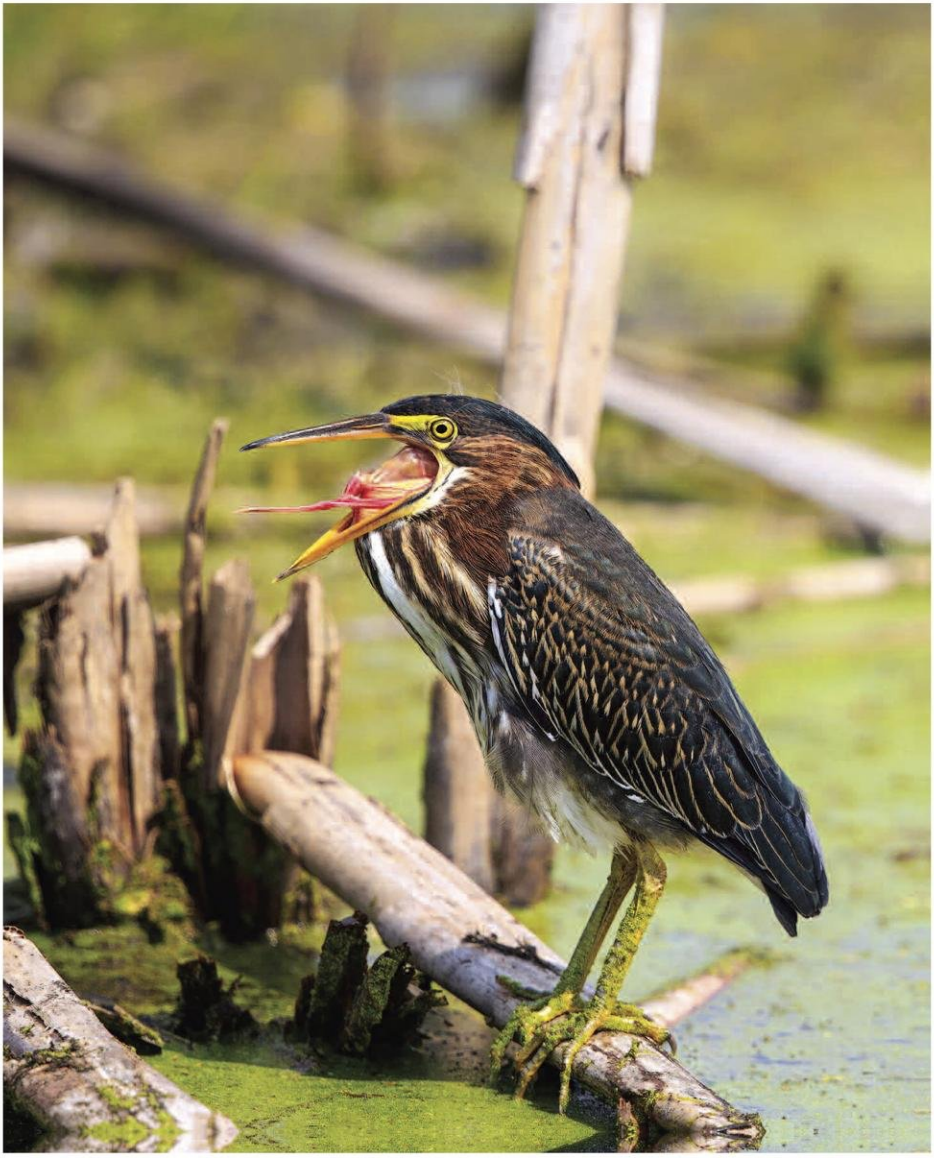
Surf Scoter—September arrivals were 23 September in Bayfield County (Ouren), 25 September in Ozaukee County (Brennan), and 29 September (11 birds) in Brown County (Prestby). Inland counties with this scoter were Dane, Forest, Marathon, and Portage. The high count was 33 on 4 November in Milwaukee County (Bontly and Wanger) followed by 32 on 1 November in Milwaukee County (Lubahn) and 30 on 30 October in Milwaukee County (Stutz). Outside of Milwaukee County the high was 29 on 22 October at Harrington Beach SP in Ozaukee County (Brennan).

White-winged Scoter—September arrivals were 10 September at Harrington Beach in Ozaukee County (Brennan), 26 September in the Apostle Islands in Bayfield County (Geraghty), and 28–29 September at Harrington Beach (Brennan). Inland counties with this scoter were Dane, Eau Claire, Green Lake, and Portage. The high count was 28 on 28 October at Harrington Beach in Ozaukee County (Brennan) followed by 25 on 16 November at the same location. Outside of Harrington Beach the high count was 14 on 1 November in Milwaukee County (Stehno).

Black Scoter—September arrivals were 6–7 September at Maslowski Beach in Ashland County (Anich and Nemec), 11 September at Harrington Beach SP in Ozaukee County (Brennan), and 17 September in Bayfield County (Evanson). The arrival dates of 6–7 September are record early. The former record had been 9 September 2012 in Ashland County by Anich and Oksiuta. The only inland counties reporting this scoter were Marathon (Belter) and Waukesha (Szymczak). The high count was 50 on 1 Novem-

Jeff Galligan captured these Whooping Cranes flying across the moon in Juneau County in late October 2015.

Jim Stewart caught this Great Egret against a stunning backdrop in Dodge County in late October 2015.



This gaping Green Heron was spotted by Jim Stewart in Dodge County in late August 2015.

ber at Harrington Beach SP in Ozaukee County (Daley, Daw, and Stutz) followed by 25 on 30 October at Harrington Beach (Stutz) and 22 on 24 October at Sheridan Park in Milwaukee County (K. Johnson).

Long-tailed Duck—The first fall find was 2 October at Harrington Beach SP in Ozaukee County (Brennan) followed by numerous sightings for the remainder of the month at this location by Brennan. The only October find outside of Ozaukee County was 24 October at Wisconsin Point in Douglas County (the Kraemers). The only inland counties reporting this scoter were Portage (Pendergast) and Sauk (Barrett). The high count was 2,000 on 10 November in Manitowoc County (Watson). Nearest to this were 101 on 12 and 16 November at Harrington Beach in Ozaukee County (Brennan).

Bufflehead—September arrivals were one bird on 13 September at the Waubesa SNA in Dane County (Rysewyk) followed by two birds on 15 September at Cat Island in Brown County (Walton). For the remainder of the month one or two individuals continued to be found at Cat Island. The high count was 210 on 24 November at Spring Harbor Beach in Madison, Dane County (Evanson) followed by 202 on 14 November at Harrington Beach SP in Ozaukee County (Brennan) and 200 on 20 November at the Schlitz Audubon Center in Milwaukee County (Huf).

Common Goldeneye—This goldeneye was found in late July and early August in the counties of Bayfield, Brown (several locations), and Oneida. Beyond these counties, the first dates were 9 September in Douglas County (the Kraemers) and 16 September in Ashland County (Brady). As early as 2 August as many as 17 individuals were reported from Oneida County (Badger). The Atlas Project had this goldeneye as a confirmed breeder in the counties of Bayfield, Oneida, and Sawyer. Likely due to the unusually mild fall, the Common Goldeneye (as with the Greater Scaup) seems to have hardly begun its migration into the state before the winter season. There were no high numbers along Lake Michigan, which is where one would expect the greatest concentrations. The fall high was 215 at Burrows Park in Dane County (Daw). The only other find over 150 were reports of 100 to 200 individuals over the period 21–29 November at Rock Lake in Jefferson County (Etter-Hale and Stutz).

Hooded Merganser—This nesting species was found in late July and early August in 31 counties. This is a dramatic increase over 19 in 2014. The high count was 125 on 9 November at the Trempealeau NWR in Trempealeau County (Karlson and Overacker) followed by 122 on 26 October in Oneida County (Spahn) and 83 on 28 November on Lake Monona in Dane County (Williams).

Common Merganser—Reported early in the season from the counties of Ashland, Bayfield, Door, Forest, Oneida, Polk, Vilas, and Washburn. The high count was 80 on 29 November at Spirit Lake in Burnett County (Java) followed by 75 on 2 November in Door County (Marion Miller) and 75 on 26 November in St. Croix County (Craig Taylor). These high numbers contrast sharply with several reports of 1,000+ in 2014. This might again be due to the mild fall weather.

Red-breasted Merganser—There were three August reports, with all three coming from Door County. Those three were 3 August at Rock Island (Walsh), 11 August at Ephraim (Sue Peterson), and 29 August (Howe). Beyond Door County, the first finds were 4 September at Harrington Beach SP in Ozaukee County (Brennan) and 9 September in Wood County (Reintjes). The Atlas Project confirmed this merganser as breeding in the counties of Bayfield and Door. From his perch at Harrington Beach SP in Ozaukee County, Calvin Brennan had nearly daily counts of 1,000+ Red-breasted Merganser in the period 17 October through 20 November. His best day was 2 November when 16,667 such mergansers flew past. Outside of Ozaukee County the only other total higher than 1,000 was 1,800 on 14 November at the Kohler-Andre SP in Sheboygan County (Szymczak). The total of 16,667 on a single day from a single county is a fall season record high. The previous high was 12,000 set by Tessen in 2004 in Manitowoc County and in 2010 in Sheboygan County.

Ruddy Duck—This nesting species was reported in early August from the counties of Brown, Dane, Dodge, Fond du Lac, and Outagamie. Numbers of Ruddy Ducks then remained into the winter season. The high count was 5,800 on 14 October from the Dane County side of Lake Koshkonong (Bridge) followed by 3,000 on 15 November from the Jefferson County side of Lake Koshkonong (Stutz) followed by 980 on 20 October from the Dane County side of Lake Koshkonong (Bridge). Outside of Lake Koshkonong, the high was 400 on 16 October at Cat Island in Brown County (Prestby).

Northern Bobwhite—There were reports from the counties of Dane, Door, Douglas, Green Lake, Kenosha, Rock, Sauk, Waukesha, and Waushara. Many of these reports were of released birds. The only county in which the Bobwhite was confirmed for breeding in the first year of the

Atlas Project was Sauk. The high count was six on 18 September from Washington Island in Door County (likely released) and six on 14 October from the Leopold Memorial Reserve in Sauk County (Bates).

Gray Partridge—For the fifth consecutive fall there were no reports. These was also no confirmed breeding in the first year of the Atlas Project.

Ring-necked Pheasant—The only double digit counts were of 12 and 13 birds on various dates in August from the Horicon Marsh of Dodge County.

Ruffed Grouse—Reported from 39 counties, which compares to 31 in 2014 and 29 in 2013. Double digit totals were 11 on 10 August in Vilas County (Stone) and 12 on 24 October in Price County (Fernandez).

Spruce Grouse—Reported from Forest and Vilas counties. The high was five on 17 September in Vilas County (Dixon and Wenzel) and five on 21 September in Vilas County (Wood).

Sharp-tailed Grouse—Reported from Burnett and Douglas counties. The high count was seven on 20 September in Douglas County (M. Gray) followed by five on 16 October in Douglas County (P. Hayes).

Greater Prairie-Chicken—There was one report from Adams County (the Leola Marsh) and two reports from Portage County (the Buena Vista Grasslands). All finds were of one or two birds.

Wild Turkey—The high count was 75 on 12 November in Dane County (Berglund) followed by 50 on 21 October in Juneau County (Schietzelt) and 45 on 7 November in Dane County (Kristen Schmitt).

Red-throated Loon—Reported from the Great Lake counties of Brown, Douglas, Ozaukee, Racine, and Sheboygan. The one inland county was Dane with a good many birders seeing this loon on Fish Lake in the period 16–19 November. There was then a find on 30 November at Lake Kegonsa in Dane County (Thiessen). The first fall date was 17–18 September in Douglas County (Tessen) followed by13 October at Harrington Beach SP in Ozaukee County (Brennan). There were five reports of 10+ individuals, all of these coming from Brennan at Harrington Beach. In ascending order, these five counts were 10 (on 31 October), 11 (on 7 November), 14 (on 13 November), 18 (on 19 November), and 21 (on 6 November). In the history of the fall reports, the only year with more individuals from a single county was 1952 when Dixie Larkin had 30 on 20 November in Milwaukee County.

Pacific Loon*—One report, that of a single bird on 2 November at Wisconsin Point in Douglas County (Jan and Larry Kraemer).

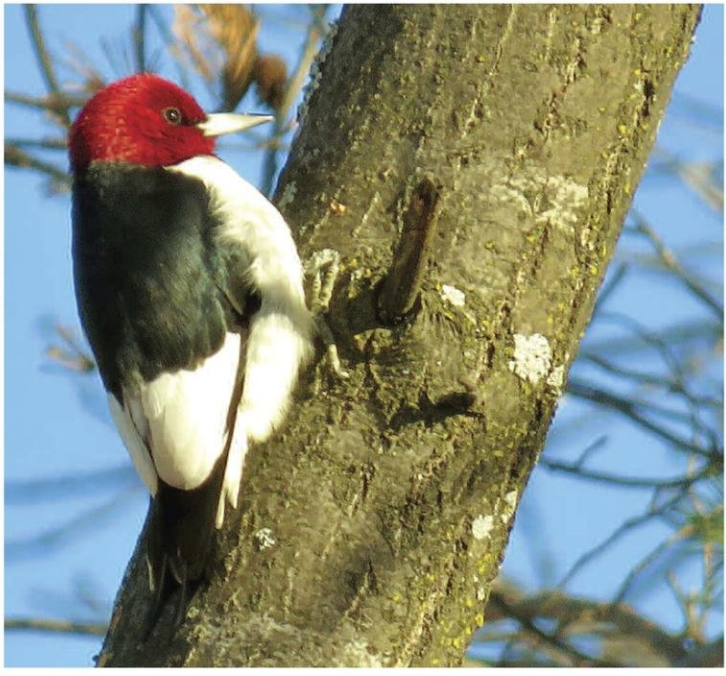
Common Loon—The first finds beyond nesting counties were 11 August at Cat Island in Brown County (Walton) followed by 23 August in Dane County (Brezinski). This loon was then found into the winter season. The high count was 60 on 9 October at Trout Lake in Vilas County (Stone) followed by 50 on 8 August at Trout Lake (Stone) and 45 on 5 October at Trout Lake (Stone). Outside of Trout Lake, the high was 43 on 17 October at Harrington Beach SP in Ozaukee County (Brennan).

Pied-billed Grebe—There were reports of this grebe that extended into the winter season. The high count was 125 on 27 September at the Red Cedar Lake SNA in Jefferson County (Stutz) followed by 120 on 24 September at Lake Maria in Green Lake County (Schultz) and 120 on 22–23 September at Lake Wausau in Marathon County (Belter).

Horned Grebe—August reports of Horned Grebes were 12–13 August at Cat Island in Brown County (Paulios and Prestby), 20 August in Door County (the Lukes), 24 August at Fischer Creek in Manitowoc County (Domagalski), 27 August in Jefferson County (Etter-Hale), and 28 August at Wind Point in Racine County (Wood). Numbers of this grebe then continued to be found into the winter season. The high count was 97 on 11 November in the City of Ashland in Ashland County (Anich) followed by 95 on 1 November in Ozaukee County (Daw). These are the lowest seasonal highs since 67 in 1993.

Red-necked Grebe—Reported from 11 counties, which compares to 15 in 2014 and 19 in 2013. The last July report of this uncommon nesting species was 26 July in Burnett County (Hoefler), while the only August finds were 7 August at Crex Meadows in Burnett County (Haseleu and Perlberg), 9 August in Dunn County (Polk), and 13 August at Schoeneberg Marsh in Columbia County (Larson). The Atlas Project confirmed this grebe for breeding in the counties of Columbia and Sauk. The last dates were 20 November at Hika Bay in Manitowoc County (Rossiter and Rothe), 20 November at Harrington Beach SP in Ozaukee County (Brennan), and 27 November at Lake Altoona in Eau Claire County (Polk). The high count was six on 24 October at

Jeff Galligan took this portrait of a juvenile Red-headed Woodpecker in Juneau County in late October 2015.



This adult Red-headed Woodpecker paused for Kerry Sehloff in Juneau County in November 2015.

Greg Hottman photographed this vagrant Rufous Hummingbird perched in Dodge County in early August 2015.

Mid-September 2015 brought this Eastern Whippoorwill to Milwaukee County and the camera of Jym Mooney.

Wisconsin Point in Douglas County (the Kraemers) followed by five on 7 August in Burnett County (Haseleu).

Eared Grebe*—There were three finds, each of single birds. Those three were 1 September at Lake Koshkonong in Rock County (Boone), 4–5 October at Lake Barney in Dane County (first by Bonk and Thiessen), and 6 October in Milwaukee County (Lubahn).

Western Grebe*—There were two reports, both of single birds. The first was 1–3 August at the James Madison Park in the City of Madison, Dane County (first by Collison and Holschbach) followed, at the opposite end of the fall period, on 24 November along the lakefront in the City of Sheboygan (Wood).

Double-crested Cormorant—As has happened in previous years, the only great concentration of cormorants in the state was off Cat Island in Brown County. From the start of the fall season through early October, cormorants were found in numbers of 6,000+ on a daily basis. The greatest concentrations were in the period 8–11 September. The highest estimate was 38,000 on 8 September followed by 35,000 on 9 September and 30,000 on 10 September with all totals compiled by Prestby. Previous to 2011, the record fall season count of cormorants within a single county was 5,000 (set by W. H. Kiel on 10 October 1949 in La Crosse County and matched by Tessen on 2 September 1995 in Brown County). This high of 5,000 was then broken by Tessen with 9,000 in Brown County in 2011 and that record broken by Prestby with 23,000 in Brown County in 2013. The high of 38,000 in 2015 is well beyond these 23,000 in 2013. Outside of Cat Island, the only reports of over 1,000 were 2,200 at North Point in Sheboygan County (Brasser) and 1,716 on 11 September at Harrington Beach SP in Ozaukee County (Brennan). Both these counts are likely of cormorants leaving Cat Island and moving south along the shore of Lake Michigan. As is now annual, some cormorants remained into the winter season.

American White Pelican—As with the Double-crested Cormorant, the greatest concentration of White Pelicans in Wisconsin was at Cat Island in Brown County. The high count from Cat Island was 4,000 on 8 August (Prestby) followed by 2,200 on 11 August (Swelstad). The other population center for nesting pelicans was the Horicon Marsh of Dodge and Fond du Lac counties. The high count at Horicon was 232 on 3 August (McCuen). Once the pelicans leave their nesting sites in Brown and Dodge counties, they tend to migrate to the Mississippi River. The high counts this fall from along the river were 900 on 2 October at Potosi Point in Grant County (McKay), 250 on 20 October in Grant County (Thiele), and 218 on 8 October in Vernon County (Roth-Reynolds). The estimate of 4,000 White Pelicans on 8 August at Cat Island is record high for the fall season. The record had been 2,500 on 20 September 2006 in Pepin County by Robert Russel. As with the cormorant, small numbers of pelicans continued to remain into the winter season.

American Bittern—Reported from 24 counties, which compares to 20 in 2014 and 23 in 2013. The last October dates were 14 October at Cat Island in Brown County (Prestby) and 24 October at Harrington Beach SP in Ozaukee County (Milender). These were followed by a find on 1 November in Dane County (Perlberg). The high count was three from a number of locations.

Least Bittern—Reported from six counties, which compares to eight in 2014 and four in 2013. The only September find was 5 September at Kewaskum in Washington County (Faith). The high count was two on 23 August in Milwaukee County (McKinley).

Great Blue Heron—The high count was 26 on 17 August in Grant County (Moline) followed by 25 from a number of locations.

Great Egret—Finds beyond 6 November were 9 November at Merton in Waukesha County (Hahn), 11 November in Dodge County (Tessen), and 14 November at the Horicon Marsh of Dodge County (Jorgensen). The high count was 175 on 1 September at the Horicon Marsh in Dodge County (Tessen) followed by 140 on 29 August in Jefferson County (Armstrong) and 109 on 13 September at the Horicon Marsh in Dodge County (Hoyland).

Snowy Egret—There were no fall finds. The only summer report was of one bird on 2 June at the Horicon Marsh in Dodge County (Shealer). This is only the third fall miss of this species since 1988.

Tricolored Heron*—Documented for 4 September at the Uihlein Waterfowl Area in Winnebago County (Ziebell). There are but four fall departure records at a later date.

Cattle Egret—The last summer season find was of 33 birds on 30 July along Lakeshore Drive just south of Brothertown by Lake Winnebago in Calumet County (R. Mueller). The only find in the months of August and September was 14 August in Brown County (Tessen). This was followed by a single bird on 21 October at Samuel Meyers

Park in Racine County (Fare) followed by an unusually large number of finds for the remainder of October and into November. In the short time span of 22–31 October Cattle Egrets were found in the counties of Brown, Dodge, Fond du Lac, Green Lake, Manitowoc, Outagamie, and Rusk. This was followed by numerous reports in early November from the counties of Dodge (three locations), Fond du Lac, Ozaukee, and Winnebago. The last dates were 17–20 November from Juneau in Dodge County (Schrab). The 20 November date is rather late with just three historic records beyond that date. All reports were of one or two birds.

Green Heron—The last date was 26 October in Milwaukee County (the Natural Areas Staff) proceeded by 14 October in Eau Claire County (the Chrousers) and 16 October at Woodland Dunes in Manitowoc County (Knickelbine). The high count was 27 on 20 September in Waupaca County (Boyle) followed by 23 on 4 August in Waupaca County (O'Connell) and 15 on 22 September in Polk County (B. Collins).

Black-crowned Night-Heron—Reported from 19 counties, which compares to 18 in 2014 and 19 in 2013. The last date was 29 November at the mouth of the Fox River in Green Bay, Brown County (Wanger) proceeded by 16 November at Harbor Island in Milwaukee County (Pavletic) and 22 November in the City of Sheboygan (Grossmeyer and Huf). The high count was 41 on 4 August at the Mack SWA in Outagamie County (O'Connell) followed by 15 on 26 September at the Vernon Marsh in Waukesha County (Stehno) and 11 on 6 September at the Horicon Marsh in Fond du Lac County (Grossmeyer).

Black Vulture*—One bird documented on 28 September at the City of Bayfield in Bayfield County by Benjamin Baldwin. This was the eleventh state records and the seventh record for the fall season. This was the first find for Wisconsin in the month of September and a record early fall date. The previous record arrival date was 7 October 1989 in Sauk County by Lisa Hartman.

Turkey Vulture—The last fall dates were 25 November in Waukesha County (Stehno) and 27 November in Sheboygan County (Evanson). This vulture was then found at various locations into the winter season. The high count was 167 on 24 September in Grant County (McKay) followed by 120 on 14 October in Grant County (McKay) and 110 on 27 August at Menomonee Falls in Waukesha County (Collison).

Osprey—The last October dates were 27 October at Goodwiler Lake in Iowa County (Ouren) and 29 October at Harrington Beach SP in Ozaukee County (Brennan). Beyond these was a find on 19 November in Barron County (Pertile). The only double digit total was 12 on 24 August as Cedar Grove in Sheboygan County (Radley).

Mississippi Kite*—Two birds were seen on 30 August near Janesville in Rock County by members of the Breeding Bird Atlas Project. There are only five other fall season records for the Mississippi Kite and all of those were of single birds. The other five are 10 September 1970 in Sheboygan County (Daniel Berger), 11 September 1970 in Oneida County (Paul Engberg), early October 1982 in Outagamie County (specimen), 20 September 1988 in Ozaukee County (Bill Cowart), and 6 October 2010 in Portage County (Joe Schaufenbuel).

Bald Eagle—The high count was 200 on 20 November in La Crosse County (Stratton) followed by 76 on 27 November at the Eagle Valley Preserve in Grant County (McKay) and 72 on 12 November at the Eagle Valley Preserve (Thiele). Perhaps due to the mild fall, eagles had not yet gathered in numbers along the Mississippi River.

Northern Harrier—This harrier was found throughout the season. The high count was 13 on 29 November at the Killsnake SWA in Calumet County (Tiede) followed by 11 on 21 October in Marinette County (Stehno) and 10 from a number of locations.

Sharp-shinned Hawk—Early season reports for this nesting species came from the counties of Burnett (Delarosa), Door (the Lukes), Juneau (Burrus), and Marquette (Christensen). The high count was 171 on 15 October at Forest Beach in Ozaukee County (Schaefer) followed by 84 on 12 October at Eagle Valley in Grant County (Thiele) and 80 on 8 October at Eagle Valley in Grant County (Thiele).

Cooper's Hawk—The high count for this permanent resident was 22 on 15 October at Forest Beach in Ozaukee County (Schaefer) followed by nine on 19 September in Kenosha County (Collison).

Northern Goshawk—Reported from nine counties, which compares to 10 in 2014. The most southern finds were from Ozaukee County (three locations) and Richland County (Duerksen). There were no August sightings of this permanent resident. The only September finds were 20 September in Douglas County (Kivikoski and Liz Miller) and 23 September in Florence County (Bob and Kay Kavanagh). All reports were of single birds.

Jym Mooney photographed this blue-morph Snow Goose in mid-September 2015 in Milwaukee County.

Rita Flores Wiskowski caught this small group of Mourning Doves huddled in the snow in late November 2015 in Milwaukee County.

Kerry Sehloff secured this fall 2015 image of a vagrant Scissor-tailed Flycatcher in Manitowoc County.

This young Virginia Rail was imaged by Jeff Galligan in Dodge County in early August 2015.

Red-shouldered Hawk—Reported from 32 counties, which compares to 23 in both 2013 and 2014. The high count was three on 14 September in Polk County (Maercklein).

Broad-winged Hawk—The last dates were 14 October in Door County (the Lukes) and 17 October in Rock County (Schumacher). The high count was 1,250 on 19 September at Wisconsin Point in Douglas County (by birders attending WSO's Jaegerfest) followed by 433 on 24 September in Grant County (McKay) and 225 on 19 September in Dane County (Paul Senner). The total of 1,250 is not particularly large. The last time a large kettle of Broad-winged was reported was on 23 September 2003 when Bill Cowart estimated 10,000 at Concordia College in Ozaukee County. Cowart had another large kettle of 14,100 on 18 September 1992. The record fall high is 18,684 on 18 September 1993 in Oconto County by Thomas Erdman.

Red-tailed Hawk—The only location in Wisconsin to give somewhat consistent reports on raptor migration was the Eagle Valley Nature Preserve in Grant County. Without reports from the birders at this location, Wisconsin would be essentially blind to hawk movements. All the high counts for Red-tailed came from Eagle Valley. The high was 85 on 29 October (Thiele) followed by 49 on 12 November and 41 on 12 October (both by Thiele). Outside of Eagle Valley, the high was 26 on 7 November from the Cedar Grove banding station in Sheboygan County (N. Miller).

Rough-legged Hawk—The September arrival dates were 21 September in Iowa County (Kivikoski) and 27 September in Eau Claire County (Carey and Ryan Chrouser). The next sighting did not come until 18 October in Adams County (R. Anderson). Perhaps due to the lack of snow, Rough-legged were not found in large numbers. The high count was three on 7 November in Monroe County (Epstein). This high of three matches the fall season record low high of three set in four other years (1988, 2001, 2002, and 2004).

Golden Eagle—Reported from 13 counties, which compares to eight in both 2013 and 2014. The first date was 27 September in Eau Claire County (Carey and Ryan Chrouser) not to be followed until 17 October at Wisconsin Point in Douglas County (R. Johnson and Svingen) and 21 October at Eagle Valley in Grant County (Thiele). The only count higher than two was seven on 27 November at Buffalo in Buffalo County (Geraghty).

Yellow Rail*—The one report was of a single bird on 6 August in Burnett County (Delarosa).

King Rail*—There were no reports. This was only the fifth fall miss since 1990. The 2015 Breeding Bird Project produced no probable or confirmed breeding.

Virginia Rail—The October departure dates were 8 October at Bridget Lake in Polk County (Maercklein), 9 October at Myrick Marsh in La Crosse County (Stark), and 21 October at Picnic Point in Madison, Dane County (Noeldner). Despite the lack of November finds, this rail, as usual, was reported on a number of Christmas Bird Counts. The high count was eight on 4 August at the Horicon Marsh of Dodge County (McCaw) and eight on 6 August at the Horicon Marsh of Fond du Lac County (Wood).

Sora—The last October finds were 13 October at Myrick Marsh in La Crosse County (Teskie) and 20 October at the same location by Teskie. These were followed by a report for 11 November at Fish Camp Park on Lake Kegonsa in Dane County (Baker). The high count was 44 on 7 September at Upper Clam Lake in Burnett County (M. Berg). Nearest to this was 10 from several locations.

Common Gallinule—Reported from 10 counties, which compares to seven in 2014 and eight in 2013. The vast majority of sightings came from the Horicon Marsh of Dodge and Fond du Lac counties. October departure dates were 2 October at the Horicon Marsh of Dodge County (Lally), 4 October in Walworth County (Smallwood), and 11 October at the Horicon Marsh of Dodge County (Lally). The high count was 18 on 6 September at the Horicon Marsh of Dodge County (Grossmeyer) followed by 13 on 30 August at the same location (Wood).

American Coot—Found throughout the period with numbers remaining into the winter. The high count was 7,100 on 12 November from Shawano County (Wilken) followed by 7,000 on 2 November at Lake Mills in Jefferson County (Stutz) and 5,000 on 22 October at Potosi Landing in Grant County (Denton).

Sandhill Crane—Due to the mild fall, large numbers of Sandhill Cranes remained into the winter season. The high count was 6,000 on 17 October at Crex Meadows in Burnett County (Douglas and Holmer) followed by 3,000 on 24 October at Crex Meadows (McBride) and 3,000 on 18 November at the Leola Marsh SWA in Adams County (W. Mueller).

Whooping Crane—Reported from nine counties, which compares to 11 in 2014, 12 in 2013, and 17 in 2012. The most reports came from the Necedah NWR in Juneau County. The last dates were 9 November in Iowa County (Kivikoski) and 15 November in Dodge County (Tessen). The high count was eight on a number of dates from Necedah.

Black-necked Stilt—The Black-necked Stilts that were confirmed for breeding at the Horicon Marsh of Dodge and Fond du Lac County continued to be found into the fall season. The only fall report outside of Horicon Marsh was of one bird on 9 August at the Paradise Valley SWA in Waukesha County (Hahn). The two September departure dates came from the Horicon Marsh of Dodge County. Those dates were 1 September (MacAulay) and 4 September (Wood). The high count for Horicon in Dodge County was 12 on 9 August (Collison), while the high for Horicon in Fond du Lac County was 20 on 16 August (Tessen). The count of 20 individuals is record high for the fall season. The record had been 13 set on 5 August 2012 at Horicon Marsh in Fond du Lac County by Aaron Stutz.

American Avocet—Reported from five counties, which compares to seven in 2014 and 11 in 2013. The majority of fall reports came from Cat Island in Brown County. The first report of returning Avocets was the rather early date of 3 July at Lake Koshkonong in Rock County (Boone). The last fall dates were 29 September through 5 October in Dodge County by David Schrab. Outside of these Schrab reports, the last date was 28 September at Wisconsin Point in Douglas County (Richardson). The high count was eight on 19 September at Cat Island in Brown County (Swelstad) followed by six on 16 and 17 September at Cat Island (Prestby).

Black-bellied Plover—The first fall migrant was found 2 August at Cat Island in Brown County (Sonneland and Swelstad) followed by 3 August at the Horicon Marsh in Dodge County (Schrab). The last October sighting was 30 October at Goose Pond in Columbia County (Schwarz) and at the Rainbow Flowage in Oneida County (Goodman and Vokoun). These were followed by a find on 5 November at the Bark Bay Slough SNA in Bayfield County (Anich). There were numerous double digit counts from Cat Island in Brown County in the period 12 September through 11 October. The high at Cat Island was 35 on 27 September (Prestby and Sinkula). Outside of Cat Island, the high was 25 on 18 August at the Horicon Marsh of Dodge County (Tessen).

American Golden-Plover—The only summer season find was of one bird on the unusual date of 7 July in Kenosha County (Dixon). The first fall season report was of one bird on 2 August at Cat Island in Brown County (Sonneland and Swelstad). Lone individuals were then found at Cat Island in the period 12–17 August. Outside of Cat Island, the only August birds were a single individual on 16 August at the Horicon Marsh in Dodge and Fond du Lac counties (many birders) and two birds on 27 August at the Anderson Sod Farm in Winnebago County (Swift). The last October dates were 25–28 October at the Rainbow Flowage in Oneida County (last by Peczynski). This was followed by a find on 1 November in Marathon County (Belter). The high count was 1,000 on 11 October in Green Lake County (Roti Roti and Schultz). Nearest to this was 82 on 20 October in Grant County (Kivikoski) followed by 74 on 10 October in Dodge County (Schrab). The estimate of 1,000 on 11 October is record high for the fall season. The high had been 700 set on 25 September 1970 in Racine County (Daryl Tessen) followed by 600 on 6 October 1980 in Columbia County (Randy Hoffman).

Semipalmated Plover—The first fall migrants arrived in July of the summer season. The last dates were 25 October at Cat Island in Brown County (Prestby, Swelstad, and Walton) and 29 October at Samuel Meyers Park in Racine County (Goldberg). Cat Island consistently had counts of better than 20 with the high of 32 on 10 August (Prestby). Outside of Cat Island the only count better than 20 was 22 on 28 August at the Horicon Marsh of Fond du Lac County (Bob and Kay Kavanagh).

Piping Plover—The 2015 Atlas Project found no evidence of breeding in Wisconsin. The only July find was 3 July at Terrell Island in Winnebago County (R. Anderson). The only location reporting this plover for the fall season was North Point in Sheboygan County with the first find on 4 August (Jablonski and Murkowski) and the last on 21 August (Geraghty and Wood). All reports were of one or two birds.

Killdeer—The last dates were 23 November at North Point in Sheboygan County (M. Gray), 24 November at McKinley Beach in Milwaukee County (Wanger), and 28 November at the same location (Mooney). The high count was 255 on 5 September at the Wind Lake sod farms in Racine County (many birders) followed by 222 on 8 August in Brown County (Swelstad) and 180 on 27 September in Dane County (Bridge).

Spotted Sandpiper—The last October dates were 25 October at Cat Island in Brown County

These preening Dowitchers posed for Kerry Sehloff in August 2015 in Dodge County.

This Dane County Black-throated Green Warbler posed for Greg Hottman in late September 2015.

Greg Hottman imaged this beautiful LeConte's Sparrow in mid-October 2015 in Dane County.

This Nelson's Sparrow perched in Dane County against a drying fall backdrop for Greg Hottman in October 2015.

(Prestby and Walton) and 27 October at the South Metro Pier in Milwaukee County (Wanger). These were followed by a find on 5 November at Idle Isle Park in Waukesha County (Kinzer). There were numerous count of 20+ from Cat Island in Brown County with the high being 35 on 10 August (Prestby). Matching this high were 35 on 15 August at the Necedah NWR in Juneau County (Milender). Outside of Cat Island, the next highest count was 13 on 20 August at Grant Park in Milwaukee County (the Natural Areas Staff).

Solitary Sandpiper—The bulk of fall migrants arrived in July of the summer season. The last date was 20 October at Goose Pond in Columbia County (Lindemer, Schiffman, and Schwarz) proceeded by 10 October in Marathon County (Belter) and 14–15 October in Dane County (Rolek). The high count was 40 on 8 August in Waukesha County (Hahn and J. Weber) followed by 16 on 27 August at the Bong SRA in Kenosha County (Wanger) and 10 on 10 August in Manitowoc County (Watson).

Greater Yellowlegs—The last dates were 13 November at the Horicon Marsh of Dodge County (Drye) and 14 November at Beaver Dam Lake in Washington County (Szymczak). The high count was 150 on 15 August at the Horicon Marsh of Fond du Lac County (Tessen) followed by 75 on 16 August at the Horicon Marsh in Fond du Lac County (Grossmeyer).

Willet—The first fall migrants arrived in June of the summer season. The only fall season finds were 3 August at Samuel Myers Park in Racine County (two birds by Goldberg), 10 August at the same park (one bird by Hertz), and 21 August at the Horicon Marsh in Fond du Lac County (one bird by Geraghty).

Lesser Yellowlegs— The last dates were 11 November at the Horicon Marsh of Dodge County (Tessen) and 20–21 November at the City of Manitowoc lakefront (first by Sontag). The dates 20–21 November are rather late with but two historical reports beyond those dates. All of the high counts came from the Horicon Marsh of Dodge and Fond du Lac counties. The high was 250 on 16 August at the Horicon Marsh in Fond du Lac County (Tessen) followed by 172 on 15 August at the same location (Grgic and Schroeder). Outside of the Horicon Marsh, the highest count was just to the south with 40 on 20 August at Hustisford in Dodge County (Wood).

Upland Sandpiper—The only fall finds were 6 August in Bayfield County (one bird by Lehner) and 9 August in Iowa County (one bird by Kivikoski). The departure date of 9 August is one of the earliest in state history. There are but three records at an earlier date.

Whimbrel—The only July report was on the unusual date of 8 July at the Manitowoc Impoundment (Sontag). Following this there were no fall season sightings. This is the first fall miss since 2008.

Hudsonian Godwit—There were no July reports of fall arrivals. The only fall season find was a single bird on 10–11 August at Cat Island in Brown County (first by Prestby).

Marbled Godwit—There were no July reports of fall arrivals. The only fall season finds were of single birds on 10–13 August at the V Ponds in Dane County (first by Bailey and Terrien) and 25 August at Cat Island in Brown County (Prestby). A sighting that was missed being reported in the fall of 2014 was a find on 4 October at the 6th Avenue Marsh in Adams County by Alyssa DeRubeis and Joe Schaufenbuel.

Ruddy Turnstone—The first July find was on the unusual date of 8 July at the Manitowoc Impoundment (Sontag). This was not followed by another report until 29–30 July at Cat Island in Brown County (Prestby). The last date was 26 September at Cat Island in Brown County (Jan Hansen and Pestby). The nearest date to this was 17–19 September at Wisconsin Point in Douglas County when a good many Jaegerfest birders saw this bird. The only count better than three was nine on 15 September at Veterans Park in Milwaukee County (Lubahn).

Red Knot—There were two reports, each of single birds. The first was 2 September at Cat Island in Brown County (Swelstad). The second was 9–11 September at the Anderson Sod Farm in Winnebago County (many birders).

Stilt Sandpiper—Fall migrants began arriving in July of the summer season. October departure dates were 11 October at Cat Island in Brown County (Prestby, Sinkula, and Walton), 20 October at Goose Pond in Columbia County (Schiffman), and 21 October in Dodge County (Grossmeyer). The high count was 93 on 7 August at Lake Barney in Dane County (Thiessen) followed by 25 on 16 September at Shady Lane Pond in Dodge County (Hahn) and 12 on 15 August at Horicon Marsh in Fond du Lac County (King and Malcolm).

Sanderling—The first fall migrants were found on 14 July at Cat Island in Brown County

(Swelstad). November departure dates were 1 November at Samuel Myers Park in Racine County (Goldberg, Howe, and Kinzer), 1–2 November at North Point in Sheboygan County (many birders), 2 November at Harbor Island in Milwaukee County (Wanger), and 3 November at Dummer's Pond in Dunn County (Polk). In the period 20 August through 2 October there were nearly daily double digit counts from Cat Island in Brown County with the high of 40 coming on 12 September (Schultz). In the period 17–20 September at Wisconsin Point in Douglas County (during Jaegerfest) there were numerous counts into the 20's with the high being 28 on 17 September (Schultz). On 18 September 33 were found along the beaches of Milwaukee County (Lubahn).

Dunlin—This is one of the last shorebirds to migrate into Wisconsin in the fall. The first find was not until 30 August with two birds at Cat Island in Brown County (Swelstad). The Dunlin is also one of the last shorebirds to leave the state. There were numerous November sightings with the last being 21 and 24 November at Lake Altoona in Eau Claire County (Polk) and 23–24 November at North Point in Sheboygan County (Brasser, M. Gray, and Wood). The high count was 215 on 5 November at Cat Island in Brown County (Prestby) followed by 176 on 5 November at Harrington Beach SP in Ozaukee County (Brennan) and 110 on 19 October at Cat Island (Prestby).

Purple Sandpiper—There was one report, which was of a single bird on 22–23 November at the Manitowoc Impoundment (Sontag).

Baird's Sandpiper—The first fall arrivals were seen 19 July in Marathon County (Belter and Hurlburt). The October departure dates were 13 October in Calumet County (R. Mueller), 16 October in Oconto County (Rickaby), and 19 October in Columbia County (Tessen). These were followed by 1 November in Dodge County (Tessen). The double digit counts were 10 on 30 August at the Big Eau Pleine Reservoir in Marathon County (Belter and Hurlburt), 11 on 27 August at the Horicon Marsh of Fond du Lac County (Wood), and 12 on 20 August at Cat Island in Brown County (Prestby).

Least Sandpiper—The bulk of fall arrivals took place in July of the summer season. The last October dates were 25–26 October from Oneida County (Spahn) proceeded by 16–25 October at the Horicon Marsh of Dodge County (last by Parrish). In the period 12–20 August 100 or better Least Sandpipers were found at Cat Island in Brown County with the high count of 210 coming on 20 August (Prestby). Outside of Cat Island, the high was 62 on 17 August at Sauk Prairie in Sauk County (Walsh).

White-rumped Sandpiper—The first fall arrival was a single bird on 31 July in the Racine Harbor of Racine County (Dixon). The last October dates were 26 October at the County V Ponds in Dane County (Lindemer), 26 October at Albany Lake in Green County (Haycraft), and 28 October at Goose Ponds in Columbia County (R. Anderson). These were followed by reports in the period 1–7 November from Shady Lane Pond in Dodge County (Rutherford, Tessen, and Wood). The high count was 40 on 5 October at Silver Creek in Green Lake County (Schultz) followed by 35 on 10 October at the Brillion SWA in Calumet County (King, R. Mueller, and Tiede) and 30 on 19 October in Columbia County (Tessen). The count of 40 on 5 October is second in the history of the fall season only to 50 on 8 October 1996 in Dodge County (Tessen). The second highest historical count of White-rumped had been 27 on 22 October 2000 in Oconto County (Jerry and Karen Smith).

Buff-breasted Sandpiper—Reported from 11 counties, which is an improvement over five in 2014 but was less than the 19 in 2013 and the 16 in both 2011 and 2012. The first fall arrival was a single bird on 29 July at the Anderson Sod Farm in Winnebago County. The last September dates were 20 September at Cat Island in Brown County (R. Anderson and Swelstad) and 26 September at Cat Island (Jan Hansen and Prestby). A month beyond this last date, a Buff-breasted was found on 25 October in Oneida County (Robert Spahn). There are but two state records at a later date. Those two are 30 October 2011 in Dodge County (Thomas Wood) and 7 November 2011 in Dodge County (Jym Mooney). The high count was seven on 28 August at the Anderson Sod Farm in Winnebago County (Malcolm).

Pectoral Sandpiper—The bulk of fall migrants arrived in July of the summer season. The last November departure dates were 7 and 11 November at the Horicon Marsh of Dodge County (Tessen). All of the high counts came from the Horicon Marsh of Dodge and Fond du Lac counties. The high count in Horicon of Fond du Lac County was 300 on 16 August (Tessen); the high count in Horicon of Dodge County was 80 on 17 August (Frank). Outside of Horicon Marsh the high was 41 on 12 August at the County V Ponds in Dane County (Lindemer).

Semipalmated Sandpiper—The bulk of fall migrants arrived in July of the summer season. The last dates were 14 October at Cat Island in Brown County (Prestby) and 19–20 October at Goose Pond in Columbia County (Lindemer and

Greg Hottman captured this image of an elusive Lincoln's Sparrow in Dane County in late September 2015.

Mid-November 2015 in Dane County brought this Golden-crowned Kinglet into view for Greg Hottman.

Jim Stewart found this mid-August 2015 Indigo Bunting on a leafy perch in Dane County.

Schiffman). All of the high counts came from Cat Island in Brown County in the period 11–28 August with the highest count being 60 on 20 August (Prestby). Outside of Cat Island, the high was 26 on 17 August at Sauk Prairie in Sauk County (Walsh) followed by 25 on 22 August at the Horicon Marsh of Dodge County (A. Anderson).

Short-billed Dowitcher—The bulk of fall migrants arrived in July of the summer season. The last dates were 12 September at the Horicon Marsh in Dodge County (Wood) and 20 September at Cat Island in Brown County (R. Anderson). There were few Short-billed outside of the Horicon Marsh. The high count outside of Horicon was five on 19–20 August at Cat Island in Brown County (Prestby). The high count on the Fond du Lac County side of Horicon Marsh was 98 on 16 August (Tessen); the high count on the Dodge County side of Horicon Marsh was 47 on 5 September (Petherick).

Long-billed Dowitcher—The first find was 8 August at the Horicon Marsh of Fond du Lac County (Tessen) followed by 18 August at Cat Island in Brown County (Prestby) and 24 August in Dodge County (Tessen). The last dates were 1–5 November at the Horicon Marsh in Dodge County (last by Wood). As with the Short-billed Dowitcher, there were few finds outside of the Horicon Marsh. Outside of Horicon the high count was four on 18 August at Cat Island in Brown County (Prestby). The high on the Dodge County side of Horicon Marsh was 60 on 19 and 21 October (Tessen); the high on the Fond du Lac County side of Horicon Marsh was 24 on 2 October (Lally).

Wilson's Snipe—This nesting species was found near the start of the season in six counties, which compares to 10 in 2014. The Breeding Bird Atlas Project had confirmed nesting in 2015 only in Manitowoc and Taylor counties. The last fall date was 20 November at Bender Park in Milwaukee County (Lubahn) with a scattering of birds then found into the winter season. The high count was 25 on 2 September at Waak Ponds in Manitowoc County (J. Trick) followed by 24 on 17 October at Island Lake WPA in Dane County (Thiessen) and 22 on 23 October at Island Lake WPA (Thiessen).

American Woodcock—Found near the start of the season in 11 counties, which compares to three in 2014. The last dates all came from Milwaukee County with those dates being 14 November (Mooney), 19 November (Natural Areas Staff), and 23 November (MacDonald). The high count was 10 on 17 October in Portage County (Gawlik) followed by six on 25 October in Wood County (Hayes).

Wilson's Phalarope—Reported from nine counties, which compares to six in 2014 and 11 in 2013. The only early season reports came from the counties of Clark (Belter) and Fond du Lac (Wood). The only confirmed nesting in 2015 from the Atlas Project was at the Killsnake SWA in Calumet County. The only September finds were 16 September at Shady Lane Pond in Dodge County (J. Davis, Grossmeyer, and Hahn) and 24 September at McCullough Marsh in Dodge County (Boehlke). The high count was five on 2 August in Clark County (Belter).

Red-necked Phalarope—The first fall arrival was 26 July near Green Bay in Brown County (Swelstad). The first fall season find was 6–7 August in Outagamie County (Bender and Tiede). September departure dates were 13 September at the Horicon Marsh of Dodge County (Hoyland) and 29 September at Colfax in Dunn County (P. Campbell). All sightings were of one or two birds.

Parasitic Jaeger—All fall reports came from Wisconsin Point in Douglas County. The first was on 5 September (Lamoreaux) with nearly daily sightings through 24 September (Svingen). Reports were especially heavy during Jaegerfest. The high count was five on 8 September (Richardson).

Black-legged Kittiwake*—One bird on 18 November in Ozaukee County (Tessen) and one bird over the period 24–26 November at the mouth of the Fox River in Green Bay, Brown County (first by M. Gray). This is but the second fall season with this bird since 2006.

Sabine's Gull*—Two birds on 14 September at Wisconsin Point in Douglas County (Tessen) followed by one bird on 3 October at Wisconsin Point (Jan and Larry Kraemer).

Bonaparte's Gull—The last dates were 26 November at the mouth of the Fox River in Brown County (Schilke and Watson), 26 November at Harrington Beach SP in Ozaukee County (Schroeder), 26 November at Nagawicka Lake in Waukesha County (Szymczak), and 29 November at Lake Altoona in Eau Claire County (Geraghty). There were a number of counts of 1,000+ at the mouth of the Fox River in Green Bay over the period 19–26 November with a high of 2,000 on the dates of 19 and 26 November (W. Mueller and Schilke). Outside of Green Bay, the high was 480 on 16 November at Harrington Beach SP in Ozaukee County (Brennan). The only other his-

torical fall reports of 2,000 or more Bonaparte's were 2,000 on 25 October 1971 in Milwaukee County (Daryl Tessen) and 6,000 on 30 November 2000 in Milwaukee County (John Idzikowski).

Little Gull*—The two Little Gulls that had been seen repeatedly through the summer at the Manitowoc Impoundment in Manitowoc County continued to be seen nearly daily with the last date being 7 September (Sontag). A single bird was then seen by many birders in the period 19–26 November at the mouth of the Fox River in Green Bay, Brown County (first by W. Mueller).

Franklin's Gull—Reported from 18 counties, which is a strong increase from seven in 2014 and nine in 2013. The last dates were 19 November at the mouth of the Fox River in Green Bay (W. Mueller), 19–20 November at Harrington Beach SP in Ozaukee County (Brennan), and 27 November in La Crosse County (Bonk). The high count was 145 on 12 November at the South Metro Pier in Milwaukee County (Lubahn and Wanger) followed by 27 on 12 November at Harrington Beach SP in Ozaukee County (Brennan) and 32 on 14 October in Rock County (Boone). The count of 145 is the highest since 800 on 9 November 1998 in Milwaukee County (Steve Lubahn).

Ring-billed Gull—There were counts of 1,000+ from nine counties. The most consistent such counts came from Wisconsin Point in Douglas County over the period of 8 September through 19 October. There were also numerous dates with 1,000+ from Jefferson County. The high count from Wisconsin Point was 8,000 on 19 September (Svingen). The only count higher than this was an amazing 50,000 found at dusk on 8 November at Green Lake in Green Lake County (Thomas Schultz). These 50,000 smash the former high of 10,500 set by numerous Jaegerfest birders on 21–22 September 2012 at Wisconsin Point.

California Gull*—There was one California Gull found at Wisconsin Point in Douglas County. The first sighting was on 16 September by Curt Rawn, which was just in time for perhaps every birder at Jaegerfest to have a view of this rarity. The last sighting was 9 October (Svingen). This was the nineteenth state record for this species and the eighth fall record. It was also the first time this species has been found in the month of September and, thus, was record early. The former early fall arrival date had been 19 October 2014 at Wisconsin Point by Peder Svingen.

Herring Gull—There were estimates of 1,000 birds in the counties of Brown, Douglas, and Milwaukee. The only estimates better than 1,000 were both at Wisconsin Point in Douglas County. Those estimates were 2,000 on 19 September (Lau and Richardson) and 1,783 on 21 October (Svingen).

Thayer's Gull—Reported from nine counties, which compares to 10 in 2014 and 11 in 2013. Of these nine counties, only Dane and Outagamie are not associated with one of the Great Lakes. Most of the reports were by Svingen at Wisconsin Point in Douglas County and Brennan at Harrington Beach SP in Ozaukee County. The first date was 9 October at Wisconsin Point (Svingen) and 9 October at Northridge Lake in Milwaukee County (Wanger). The high count was 14 on 28 November at Wisconsin Point (Svingen) followed by eight on the dates of 21 October and 5 November at Wisconsin Point (Svingen). Outside of Wisconsin Point, the high was five on 3 November at Harrington Beach (Brennan). The count of 14 on 28 November is record high for the fall season. The high had been 12 on 21 November 2010 at Wisconsin Point (Karl Bardon).

Iceland Gull—Reported from the counties of Douglas, Ozaukee, and Manitowoc with all reports being of single birds. The majority of reports came from Wisconsin Point in Douglas County by Svingen. The first fall date was 30 October at Harrington Beach SP in Ozaukee County (Brennan) followed by 8 November at Wisconsin Point in Douglas County (the Kraemers and Svingen). Over the period 8–28 November, Svingen was also reporting a Thayer's/Iceland gull.

Lesser Black-backed Gull—Reported from 12 counties, which compares to 15 in 2014 and 13 in 2013. After having been seen on 28 July of the summer season in Sheboygan County, this gull was not encountered during the month of August. The first fall sighting was 8 September at Wisconsin Point in Douglas County (the Kavanaghs and Richardson). Following this there were a great many reports in the period 17–19 September by birders attending Jaegerfest. All finds were of one or two birds.

Glaucous Gull—Reported from seven counties, which compares to 11 in 2014 and nine in 2013. The only county not associated with a Great Lake was Dane. Summer reports in June and July of Glaucous Gulls at the Manitowoc Impoundment continued through August and September (Sontag). There were no reports outside of Manitowoc until 2 October when single birds were found at Wisconsin Point in Douglas County (Thornton) and at Harrington Beach SP in Ozaukee County (Brennan). All finds were of one or two birds.

Kerry Sehloff captured this male Purple Finch in Fond du Lac County checking out its environment in November 2015.

Great Black-backed Gull—Reported from nine counties, which compares to 11 in both 2014 and 2013. The only county not associated with a Great Lake was Outagamie. As with the Glaucous Gull, after having been reported through the summer months, the Great Black-backed continued to be found on a regular basis at the Manitowoc Impoundment through August (Sontag). The only August report outside of Manitowoc was 17–19 August at the Samuel Myers Park in Racine County (Goldberg and Howe). The high count was three from a number of dates and locations.

Caspian Tern—The last dates were 11 October at Cat Island in Brown County (Prestby, Sinkula, and Walton), 15 October at Cat Island (Prestby), and 31 October at the Horicon Marsh of Dodge County (Szal). The 31 October report is unusually late, there being only four state records beyond that date. Most reports and all the high numbers came from Cat Island in Brown County. There were count of 100+ from 11 August through 2 September with the high of 150 on 16 August (Prestby). Outside of Cat Island, the high counts were 48 on 1 August in Manitowoc County (Wolff) and 50 on 4 August at Wind Point in Racine County (Hertz).

Black Tern—Reported from 16 counties, which compares to 21 in 2014 and 18 in 2013. The last dates were 15 September at Hudson in St. Croix County (Manley), 17 September at Veterans Park in Milwaukee County (Mooney), and 23 September at Wisconsin Point in Douglas County (Svingen). Most of the reports and high numbers came from the Horicon Marsh. The high count on the Fond du Lac County side of Horicon was 50 on 8 August (Wood); the high count on the Dodge County side of Horicon was 30 on 3 August (McCuen). Outside of Horicon, the high was 25 on 23 August at the Zeloski Marsh in Jefferson County (Stutz).

Common Tern—Reported from 12 counties, which compares to nine in 2014 and 11 in 2013. All reporting counties were associated with a Great Lake expect for Shawano (Wilken). The last September date was 28 September in the counties of Ashland (Anich), Douglas (Richardson and Svingen), and Marinette (Hurst). Be-

David Franzen took this portrait of a Black-throated Blue Warbler in early August 2015 in Vilas County.

yond these were reports for the period 28 September through 1 October at Harrington Beach SP in Ozaukee County (Brennan). Most of the reports and all of the high numbers came from Cat Island in Brown County. The high counts at Cat Island were 140 on 17 August and 115 on 18 August (both by Prestby). The nearest total to Cat Island was 71 on 9 September at Wisconsin Point in Douglas County (the Kraemers).

Forster's Tern—Reported from 23 counties, which compares to 23 in 2014 and 19 in 2013. Early season reports came from the counties of Brown, Dodge, Eau Claire, Fond du Lac, Green Lake, Manitowoc, and Waukesha. The last dates were 15 and 16 October at Harrington Beach SP in Ozaukee County (Brennan) and 25 October at Cat Island in Brown County (Prestby, Swelstad, and Walton). The high count was 45 on 26 September at Cat Island (Prestby) followed by 25 on 27 and 29 September at Cat Island (Prestby) and 24 on 14 September at Wisconsin Point in Douglas County (Gahm and Lamoreaux).

Rock Pigeon—The high count was 150 on 9 November in Milwaukee County (McKinley) followed by 149 on 26 October in Milwaukee County (McKay) and 141 on 26 October in Walworth County (McKay).

Eurasian Collared-Dove—Reported from 16 counties, which compares to seven in 2014 and

12 in 2013. Counties outside the southwestern part of the state included Brown, Dodge, Dunn, Fond du Lac, Outagamie, Ozaukee, and Sheboygan. The Atlas Project had confirmed breeding in the counties of Brown, Dunn, and Crawford. The high counts were 12 on 9 November in Crawford County (J. Collins) and 23 on 26 November in Green County (Yoerger). The 16 counties is record high. The former high had been 12 in 2013. The 23 individuals is record high. The former high had been 18 in 2013 (Fissel).

Common Ground-Dove*—One bird documented and photographed on 7 October at the Rock Island SP in Door County (Howe, Walsh, and Wegner). This is only the third state record. The past two were 22 May 1966 in Washington County (Ann Maurin) and 15 October 1973 in Milwaukee County (Mary Decker). It has thus been 42 years since the last sighting.

Mourning Dove—The high count was 106 on 26 September at Germantown in Washington County (Frank) followed by 77 on 8 November at the Paradise Valley SWA in Waukesha County (Stehno) and 75 on 18 October in Jefferson County (Scherer). The total of 106 is the lowest high for the fall season since 75 in 1984.

Yellow-billed Cuckoo—Reported from 20 counties, which compares to 21 in 2014 and 13 in 2013. The last dates were 21 September at Cliffside Park in Racine County (Goldberg), 22 September at Scout Lake in Milwaukee County (Szymczak), and 23 September at the Schlitz Audubon Center in Milwaukee County (Bontly). The high count was three on 19 September at Lake Park in Milwaukee County (Mooney).

Black-billed Cuckoo—Reported from 27 counties, which compares to 21 in 2014 and 22 in 2013. The last September date was 19 September in Dane County (Kreitinger). This was followed by one October record, that being on 1 October on Washington Island in Door County (Walsh). This was followed by a find on 14 November at Pheasant Branch in Dane County (Mike McDowell). The 14 November bird is record late by nearly two weeks. Previous to this there had been but one November record, that being 2 November 2002 in Milwaukee County by Dennis Gustafson. All counts were of one or two birds.

Eastern Screech-Owl—Reported from 25 counties, which compares to 27 in 2014 and 19 in 2013. The most northern of these counties (from west to east) were Dunn, Marathon, Oconto, and Door. The most northern county with confirmed breeding in the Atlas Project was Brown. The high count was five on 26 September in Grant County (McKay) followed by four on 30 August in Iowa County (John and Marion Kivikoski).

Great Horned Owl—The high count was six on 25 November at the Eagle Valley Preserve in Grant County (McKay) followed by five on 28 November in Iowa County (Kivikoski).

Snowy Owl—Reported from 41 counties, which is just shy of the record high of 42 in 2011. This is the fifth successive year of strong Snowy Owl numbers. Notable about this year's migration were the early arrival dates. The first date was a documented report for 18 September at Neshkoro in Marquette County by Kathleen Kirsch. This was a record early date. The record had been 21 September 1982 in Winnebago County by Dick Johnson. The second find was 15 October in Bayfield County (John Adams). There were (including the 18 September bird) only five historical records of earlier dates. This find was then followed on 16 October by finds in the counties of Crawford, Portage, and Vilas; on the 17th by finds in the counties of Iron and Rusk; on the 18th by finds in the counties of Door and Manitowoc; and on the 19th by finds in the counties of Green Lake, Milwaukee, Oneida, and Sheboygan. The high counts were two on 21 October near Reedsville in Manitowoc County (Watson) and three on 24 November in the City of Oconto in Oconto County (Tappa).

Barred Owl—The high count was four on 29 September in Waupaca County (M. Gray) and four on 25 November at the Eagle Valley Preserve in Grant County (McKay).

Long-eared Owl—There were only two reports, both of single birds. Those reports were 22 August in Marinette County (Schultz) and 24 October at Linwood Springs in Portage County (Burnette-Hill and Treves). The only Atlas Project confirmation of breeding in 2015 came from Dane County.

Short-eared Owl—Reported from 17 counties, which compares to 17 in 2014 and nine in 2013. Although this is a nesting species, the first fall find was not until 13–14 September near Melrose in Jackson County (Clark). The next find did not come until 14 October at Harrington Beach SP in Ozaukee County (Brennan) followed by 15 October in Door County (Walsh). All double digit counts came from the Killsnake SWA in Calumet County with the high being 15 on 27 November (R. Mueller). This total matches the historical record high of 15 set in late November

1979 in the Horicon Marsh of Dodge County (Robert Drieslein).

Northern Saw-whet Owl—Reported from 14 counties, which compares to 13 in 2014 and 10 in 2013. The first fall find of this nesting species did not come until 29–30 September in Wood County (Rothe). The only confirmed Breeding Bird Atlas report was from Chambers Island in Door County. The high count was three on 22 October in Eau Claire County (Lind). Since 1964, the only years with a total less than three were 1970, 1983, and 2008. The record high is 86 set on 19 October 1987 at a banding station in Oconto County (Thomas Erdman).

Common Nighthawk—Reported near the start of the season in the counties of Brown, Burnett, Door, Manitowoc, Marinette, Milwaukee, Oconto, Outagamie, Rock, and Sauk. October departure dates were 8 October at Beloit in Rock County (Boone), 12 October at Korth Park in Jefferson County (Stutz), and 20 October at Korth Park (Stutz). The bulk of migration occurred in the period 26 August through 2 September. The high counts, in ascending order, were 711 on 2 September in Manitowoc County (Sontag), 785 on 27 August in Dunn County (Hoyland), 815 on 2 September in Dunn County (Hoyland), and 1,010 on 2 September in Waupaca County (M. Gray).

Eastern Whip-poor-will—Reported from 11 counties, which compares to 11 in 2014 and nine in 2013. Early season reports came from the counties of Bayfield, Burnett, Door, Florence, Marinette, Oconto, Price, and Vilas. The last dates were 23 September in Marinette County (Swelstad), 24 September in Marquette County (Jaksic), and 27 September in Eau Claire County (Polk). The high count was seven on 10 August in Bayfield County (Anich) followed by four on 3 August in Oconto County (Beilke). Although seemingly a small number, the count of seven is surpassed in the fall season only by 15 on 21 August 1999 in Bayfield County (Dick Verch) and eight in late August 1979 in Shawano County (Mary Hafeman).

Chimney Swift—The last dates were 12 October in the counties of Ozaukee (Frank) and Waukesha (Hahn) and 14 October in Milwaukee County (Fellows). The high count was 2,000 on 27 August at the St. Norbert Abbey in Brown County (Nabak) followed by 1,950 at Lake Geneva in Walworth County (M. Nowak) and 650 on 5 September in Milwaukee County (Zehner). The total of 2,000 matches the record high of 2,000 set on 28 September 1985 in Winnebago County by Tom Ziebell.

Ruby-throated Hummingbird—The last dates were 11–14 October in Dane County (Rock), 15 October in Dane County (Bridge), and 17–26 October at her house in Whitefish Bay, Milwaukee County (Huf). From 8 August through 3 September Judy Lund had daily totals of 25 to 60 hummingbirds at her feeders in Clark County. The high of 60 came on 24 August. The nearest totals to these were 13 on 22 August in Milwaukee County (Bauer) and 14 on 3 August in Grant County (Ouren). The only fall count higher than 60 was 91 on 15 September 1991 at Concordia University in Ozaukee County by Bill Cowart.

Anna's Hummingbird*—There were three fall reports. Those three were 14–17 November at the Klein feeder in Waterloo, Jefferson County (first documented by Marty Evanson), 18–19 November at a feeder in St. Peter Heights, Fond du Lac County (first documented by Dave and Kerry Sehloff), and 23 November at Cedarburg in Ozaukee County (Dan Panetti). These three finds follow two records in the fall of 2014. Previous to 2014, there were but four state records. The first record dates back to late August through 3 December 1990 in Waukesha County at the feeder of David and Susan Schmidt.

Rufous Hummingbird*—There were four reports, which compares to five in 2014. Those four were 2–9 August at Maribel in Manitowoc County (at the feeder of Joel and Patti Trick), 3–22 August at a feeder in Mayville, Dodge County (first and last reports by Matt Herzmann), 1 November at Milton in Rock County (Bridge), and 9–10 November at Madison in Dane County (Ready and Rock).

Belted Kingfisher—The high count was six on 20 August at the Minocqua Fish Hatchery in Oneida County (David).

Lewis's Woodpecker*—This bird was first noticed on 29 September by Zaila Anderson at her home feeder north of Galesville in Trempealeau County. It was not until early November that the birding public became aware of this bird. It then remained well into the winter season thus allowing a great many birders an opportunity to see what was for nearly all a Wisconsin life bird. This was the fourth state record. The other three were 1 January to 20 April 1969 in Marinette County (Harold Lindberg), 21 October 2003 at Concordia University in Ozaukee County (Bill Cowart and Seth Cutright), and 18–30 June 2008 in Douglas County (Ryan Brady).

Red-headed Woodpecker—Reported from 48 counties, which compares to 41 in 2014 and

This Northern Parula in Iowa County still showed a lot of color in mid-September 2015 for Eric Preston.

David Franzen caught this White-crowned Sparrow fanning its tail in Vilas County in mid-October 2015.

38 in 2013. The high count was 18 on 15 and 31 August at the Necedah NWR in Juneau County (D. Casper and Milender) followed by 15 on 7 September at Necedah (Reintjes) and 12 on 4 August in Crawford County (Kirschbaum).

Red-bellied Woodpecker—The only county along Wisconsin's northern tier to not report a Red-bellied was Douglas. All totals greater than 13 came from Kelly McKay in Grant County. Among the best of these were 31 on 26 September and 5 October, 34 on 30 September, and 36 on 24 September.

Yellow-bellied Sapsucker—The high count was 26 on 18 September at the Apostle Islands in Ashland County (Brady) followed by 22 on 19 September at Wisconsin Point in Douglas County (Persico) and 12 on 25 September in Dunn County (Davis).

Downy Woodpecker—As with the Red-bellied Woodpecker, all counts greater than 12 came from Kelly McKay in Grant County. Among the better counts were 30 on 5 October, 35 on 30 September, and 47 on 14 October. These 47 break the record fall high of 38 set on 24 October 2014 in Grant County by McKay.

Hairy Woodpecker—As with the Red-bellied and the Downy woodpeckers, all the counts better than eight came from Kelly McKay in Grant County. Among the better of these totals were 12 on 27 November, 14 on 25 November, and 17 on 14 October. The only fall count greater than 17 is 28 on 17 September 1990 in Marinette County (Laura and Steve La Valley).

Black-backed Woodpecker—There were two fall reports, both of single birds. Those two were 13 September at the Bayfield Fish Hatchery in Bayfield County and 15 November along Shelter Valley Road in Forest County (Haycraft and Yoerger).

Northern Flicker—The high count was 151 on 18 September at the Apostle Islands Sandscape SNA in Bayfield County (Brady) followed by 24 on 16 September at the Horicon Marsh in Dodge County (Horn), 20 on 11 September in Ozaukee County (Schaefer), and 20 on 26 September in Rusk County (Sokolowski). Although the 151 on the Apostle Islands is a nice number, flickers can be found in large numbers when migrating past hawk watch locations. There have been nine fall seasons with 200 or more flickers found at one location in one county. The record high is 750 on 23 September 2010 at the Eagle Valley Nature Preserve in Grant County (McKay).

Pileated Woodpecker—All the high counts came from Kelly McKay in Grant County. Those highs were 10 on 14 October, eight on 25 November, and six on 24 November. The only fall total greater than 10 was 12 on 2 October 2013 at Eagle Valley in Grant County (McKay).

American Kestrel—The high count was nine on 12 August in Marathon County (Scott) and nine on 27 November in Grant County (McKay) followed by eight on 29 November in Green County (Haycraft) and seven on 27 November in Trempealeau County (Walton).

Merlin—Reported near the start of the season in 13 counties, which is a contrast to six in 2014. The most southern counties were Columbia (Wentz) and Sheboygan (Brasser). All of the high counts came from hawk watch locations along Lake Michigan in Ozaukee County. The high was 194 on 15 October at the Forest Beach Migratory Preserve (Schaefer) followed by 71 on 12 October at Concordia University (Frank). After three seasons with skimpy Merlin numbers it is great to have a total well above 100. Likely every fall from late September through mid-October there are west wind days in which large numbers of Merlin can be found along Lake Michigan. The record count is 554 on 9 October 2007 at Concordia University in Ozaukee County (Bill Cowart and Hugh Berardi) followed by 479 on 14 October 1995 at the same location (Cowart).

Peregrine Falcon—Reported from 28 counties, which compares to 33 in 2014 and 38 in 2013. The high count was eight on 8 October at the Eagle Valley Nature Preserve in Grant County (Thiele) and eight on 11 October at the Forest Beach Migratory Preserve in Ozaukee County (Bauman, Cutright, and Sher)

Olive-sided Flycatcher—The only early season report of this nesting species was from Vilas County (Martineau and Toner). The only Atlas Project of confirmed breeding came from Vilas County. Early season reports south of possible nesting counties were 5 August at the Schlitz Audubon Center in Milwaukee County (Kellerman) and 9 August in Portage County (Seiler). The last dates were 16 September at the UW Arboretum in Dane County (Henrikson), 24 September at Harrington Beach SP in Ozaukee County (Brennan), and 24 September in Washburn County (Morales). The high count was five on 2 August in Vilas County (Martineau and Toner) followed by four on 28 August at Pike Lake SF in Washington County (Collison) and four on 29 August in St. Croix County (Persico).

Eastern Wood-Pewee—The last dates were 8 October at Virmond Park in Ozaukee County (Wood), 9 October at Myrick Marsh in La Crosse County (Stark), and 15 October at the Bubolz Nature Preserve in Outagamie County (Maertz). The high count was 25 on 29 August at the Nelson Dewey SP in Grant County (Thiele) followed by 15 from a number of dates and locations. The only historic fall count higher than 25 was 35 in 1988 in St. Croix County by Murray Berner.

Yellow-bellied Flycatcher—The only Atlas Project of confirmed breeding in 2015 was from Forest County; the only early season report from a nesting county came from Bayfield (Brady). Surprising finds were made on 27 July at the Cedarburg Bog in Ozaukee County (W. Mueller) and on 1 August near Lake Mills in Jefferson County (Stutz). Outside of these unusual dates, the first finds of migrants beyond nesting counties were 13 August in Dane County (Edwards-Miller) and 15 August at the Necedah NWR in Juneau County (Milender). The last dates were 20 September in St. Croix County (Umlauf) and 27 September in Polk County (Maercklein). The high count was four on 25 August at the Lion's Den in Ozaukee County (Fissel and Otto) followed by three on 28 August at Mt. Zion in Crawford County (Sandstrom).

Acadian Flycatcher—Reported from 10 counties, which compares to six in 2014 and eight in 2013. Early season reports came from the counties of Dane, Grant, Green, Milwaukee, Sauk, Waukesha, and Waupaca. September departure dates were 5 September at Nelson Dewey SP in Grant County (Thiel) and 9 September at the Eagle Valley Nature Preserve in Grant County (Thiele). The high count was five on 1 August in the Kettle Moraine SF of Waukesha County (Szymczak).

Alder Flycatcher—The most southern of the early season reports for this species came from Green Lake and Sheboygan counties. The last dates were 28 August in Bayfield County (Brady) and 31 August in Oneida County (Brezinski). The high count was four on 2 August at the Namekagon Barrens SWA in Burnett County (Caswell).

Willow Flycatcher—The most northern counties reporting this more southern flycatcher were Brown, Manitowoc, Marinette, Polk, and Portage. The last date was 7 September in the counties of Dane (Brezinski and Heikkinen in different locations) and Jefferson (Stutz). The high count was seven on 21 August at Ledge Park in Dodge County (Bauer) followed by five on 1 August in Dane County (Haycraft and Yoerger).

Least Flycatcher—The last dates were 26 September in Grant County (McKay), 27 September at Forest Beach in Ozaukee County (Brennan), and 29 September in Bayfield County (Brady). The high count was seven on 7 September in Bayfield County (Oksiuta) followed by six on 21 August in Bayfield County (Brady) and six on 31 August at Forest Beach in Ozaukee County (Brennan).

Eastern Phoebe—The last dates were 4 November at the Odana Marsh in Dane County (Rolek) and 6–7 November at Wind Point in Racine County (first by Wenzel). Several individuals were then found in the winter season. The high count was 29 on 30 September in Grant County (McKay) followed by 15 on 26 September in Grant County (McKay) and 14 on 1 October at Riverside Park in Milwaukee County (Casper).

***Ash-throated Flycatcher**—*One bird documented for 7 November at Harrington Beach SP in Ozaukee County by Thomas Wood. This is the third state record. The other two were 30 October through 2 November in Kewaunee County (first by John Regan) and 10–13 December 2004 in Racine County (first by Dennis Gustafson).

Great Crested Flycatcher—All of the last dates came from Dane County. Those dates were 25 September at the Madison Arboretum (Bailey), 26 September at Cherokee Marsh (Hampton), and 27 September at the UW Lakeshore Nature Preserve (Bailey). The high count was five on 4 August at the Arena Boat Landing in Iowa County (Holschbach).

Western Kingbird*—There were three reports. Those three were 4 September in Winnebago County (Malcolm and Tessen), 9–14 October at the Milwaukee Community Gardens near Mitchell Airport (first by Wood), and 2–5 November at Warnimont Park in Milwaukee County (first by Drew Goldberg and Bill Grossmeyer). Previous to this year there were but two records beyond 6 October with the record late date being 20 October 1979 (Al Shea). The 2–5 November find was record late and was the first November record for this species. This is the first time in the history of the fall season that three different Western Kingbirds were reported. The former high of two had been set in 1989 and 2013.

Eastern Kingbird—The last dates were 21–22 September at the Retzer Nature Center in Waukesha County (Szymczak), 27 September at the Lion's Den in Ozaukee County (Sommer), and 28 September at the Retzer Nature Center in Waukesha County (Szymczak). The high count was 30 on 30 August at the Mounds View Grass-

land in Iowa County (Preston) followed by 15 on 22 August at the Horicon Marsh of Dodge County (Brezinski and Murrell).

Scissor-tailed Flycatcher*—There were two reports. Those two were an adult female 14–19 October in the City of Manitowoc (first by John and Julie Woodcock) and an adult male in the period 24 October to 3 November at the Coast Guard Impoundment in Milwaukee County (first by McKinley and last by Horn). The only other fall in which two different individuals were documented and accepted was in 1989 with birds found in Bayfield and Shawano counties.

Loggerhead Shrike*—There were no reports. This makes four out of the last six years without a sighting of this vanishing species. In the years 1978 through 2009, Loggerheads had been reported every fall season, except for 1986 and 1988.

Northern Shrike—The first date was 16 October in Bayfield County (Brady and Lehner) followed by 17 October in Marathon County (Belter), 18 October in Ashland County (Humfeld), and 18 October in Juneau County (R. Anderson). The only count better than one was two on 6 and 28 November at Crex Meadows in Burnett County (Danielson and Maercklein).

White-eyed Vireo—There were three fall reports. Those three were 1 August near Lake Mills in Jefferson County (Stutz), 22 September in Fond du Lac County (W. Mueller), and 22 September at Harrington Beach SP in Ozaukee County (Brennan).

Bell's Vireo—There were three fall reports, each of single birds. Those three were 8 August in Fond du Lac County (Larson and Walsh), 4 September in Iowa County (Hottman), and 7 September in Milwaukee County (W. Mueller).

Yellow-throated Vireo—There were numerous reports for the last days of September but none that extended into October. The last dates were 29 September in Grant County (Ouren), 29 September in Marathon County (Backus), and 30 September in Richland County (Duerksen). The high count was six on 30 August at Gibraltar Rock in Columbia County (Holschbach) followed by five on 3 August at the Trempealeau NWR in Trempealeau County (Zappen) and five on 29 August in Barron County (Prestby).

Blue-headed Vireo—Found early in the season in the counties of Bayfield, Florence, Forest, Marinette, Vilas, and Waukesha. This is mainly a breeding bird in the northern third of the state but there are outliers that reach as far south as Waukesha County (Szymczak). The first notice of migrants beyond nesting counties were 15 August in Chippewa County (Cameron), 26 August in Dane County (Heikkinen), and 26 August in Door County (Sue Peterson). The last dates were 12 October at the Mosquito Hill Nature Center in Outagamie County (Boyle) and 16 October at Holler Park in Milwaukee County (the Natural Areas Staff). The high count was six on 5 October in Grant County (McKay) followed by five on 13 August in Vilas County (Adam and Gina Kent).

Warbling Vireo—The last September date was 28 September at the UW Arboretum in Dane County (Hampton) and at Lake Farm Park in Dane County (Henrikson). These were followed by a find on 6 October along the Albany Bike Trail in Green County (Haycraft). The high count was 14 on 6 September along the Glacial Drumlin Trail in Jefferson County (Stutz) followed by eight from a number of locations.

Philadelphia Vireo—The first dates were 4 August in Brown County (Swelstad) and 8 August in Oneida County (Richmond). The 4 August arrival is one of the earliest on record, with but four records at an earlier date. The last dates were 6 October at Lapham Peak in Waukesha County (Kinzer) and 7 October at Washington Park in Milwaukee County (the Urban Ecology Center). The high count was nine on 30 September at Nelsons Point Peninsula SP in Door County (Sue Peterson) followed by six on 13 September at Monticello in Green County (McGowan).

Red-eyed Vireo—The last October dates were 14 October at the Oak Creek Parkway in Milwaukee County (the Natural Areas Staff) and 15 October at Riverside Park in Milwaukee County (Casper). These were followed by a find on 7 November in Marquette County (Edlhuber). The high count was 14 on 2 August in Vilas County (Coulter, Adam and Gina Kent, Martineau, and Toner) followed by 13 on a number of dates and locations. This is the lowest high of Red-eyed since 13 in 1990.

Gray Jay—Outside of Forest County, the only county reporting this jay was Douglas with a find on 22 September along the Bois Brule River (Harold and Mona Brewer). Despite this being a breeding bird atlas year, there were no sightings of Gray Jays in the period 22 July to 21 September. The only count better than three was five on 1 November along Sheltered Valley Road in Forest County (Goodman).

Blue Jay—All of the high counts came from the hawk watch location of the Eagle Valley Nature Preserve in Grant County. The highest totals were 1,628 on 30 September (Thiele) and 3,432 on 29 September (Thiele). Outside of Eagle Valley, the high was 150 on 26 September at Ephraim in Door County (Sue Peterson). The total of 3,432 surpasses the former high of 3,211 set on 25 September 2014 at Eagle Valley (Jason Thiele)

American Crow—The high count was 300 on 18 October at the George Mead SWA in Marathon County (Belter) followed by 214 on 13 November at Bridge Lake in Polk County (Maercklein).

Common Raven—Reported from 42 counties, which compares to 40 in both 2013 and 2014. Unusual counties were Fond du Lac (N. Miller), La Crosse (Baker), Sauk (Stutz), and Sheboygan (W. Mueller and N. Miller). The high count was 19 on 16 August at Wisconsin Point in Douglas County (Maier) followed by 12 on 6 October in Marinette County (Anich) and 11 on 21 November in Marquette County (Doverspike).

Horned Lark—This lark was present throughout the period. The high count was 150 on 16 October in Kewaunee County (Sinkula) followed by 110 on 22 November in Rock County (Cullum).

Purple Martin—There were September reports from six counties (Brown, Dodge, Jefferson, Kenosha, Ozaukee, and Polk) with no report being of double digit numbers. The only find beyond 9 September was 19 September in Kenosha County (Collison). Despite much less coverage, it was once common for martins to be found well into October. Since 1995 there have been October sightings of martins only in 2007 and 2011 with the last date both years being 5 October. The only fall counts better than 20 individuals were 26 on 24 August at Forest Beach in Ozaukee County (Schaefer), 30 on 26 August at High Cliff SP in Calumet County (R. Muller), and 80 on 8 August at the Barkhausen Preserve in Brown County (Swelstad). As with earlier departure dates than in the past, there has been a drastic decrease in fall numbers. This decease comes despite vastly increased field reports. Previous to 2004 (which was before the advent of ebird), there had never been a fall season without 100+ individuals. Starting with 2004, eight out of 12 seasons have had fall highs less than 100. The record low was 30 in 2004 followed by 32 in 2006. To give a taste of how much more common martins were in past fall seasons, there follows a sample of some past numbers: 10 August 1972 (10,000 in Oconto County, Thomas Erdman), 20 August 1977 (3,500 in Brown County, Edwin Cleary), 29 August 1989 (2,000 in Milwaukee County, Winnie Woodmansee), 5 September 1994 (2,000 in Oconto County, Jerry and Karen Smith), 3 August 1982 (1,500 in Milwaukee County, Jim Frank), and 19 August 1997 (1,150 in Winnebago County, Thomas Ziebell). Before 1998 the average fall high was 1,271 birds. Starting with 1998 the average fall high has been 163 birds.

Tree Swallow—The last date was 22 October at Potosi Landing in Grant County (Denton) proceeded by 21 October at Pheasant Branch in Dane County (Bridge), 21 October at Eagle Valley in Grant County (Thiele), and 18 October at Lake Barney in Dane County (Daw). The high count was 1,000 on 24 September in Rock County (Cullum) followed by 800 on 22 October at Potosi Landing in Grant County (Denton) and 620 on 14 September at Lake Koshkonong in Rock County (Boone).

Northern Rough-winged Swallow—October departure dates were 1–5 October at Big Hill Park in Rock County (Boone) and 5 October at Pheasant Branch in Dane County (Wood). The high count was 60 on 27 September at Myrick Marsh in La Crosse County (Stark) followed by 50 on 23 August in Crawford County (J. Collins) and 50 and 25 August at Lake Park in Milwaukee County (Wanger).

Bank Swallow—The last date was 16 September at Harrington Beach SP in Ozaukee County (Brennan) proceeded by 14 September at Lake Koshkonong in Rock County (Boone) and 10 September at Harrington Beach (Brennan). The high count was 400 on 10 August at Cat Island in Brown County (Prestby) followed by 300 on 13 August at Cat Island (Prestby) and 250 on 23 August at the Zeloski Marsh in Jefferson County (Stutz). Since 600 on 14 August 1993 in Green Lake County (Stephen Stedman), the highest fall count of Bank Swallows had been 200 on 8 September 2002 in Racine County by Eric Howe.

Cliff Swallow—The last September dates were 26 September at Lake Barney in Dane County (Thiessen) and 28 September at Big Hill Park in Rock County (Boone). Beyond these was the find of four birds on 10 October at Lake Park in Milwaukee County (Mooney). The high count was 650 on 25 August at the Forest Beach Migratory Bird Preserve in Ozaukee County (W. Mueller) followed by 250 on 30 August in Chippewa County (Palzkill) and 150 on 20 August at Grant Park in Milwaukee County (Natural Areas Staff). The count of 650 is the highest since 1,000 on 13 September 1995 in Barron County

(Alta Goff). The record high is 10,000 set on 4 September 1993 at Concordia University in Ozaukee County (Bill Cowart).

Barn Swallow—The last October dates were 20 October at the Trempealeau NWR in Trempealeau County (Bergeson) followed by 22 and 27 October at the South Metro Pier in Milwaukee County (Mooney and Wanger). These were followed by the find of several birds on 1 November at the South Metro Pier (many birders). The high count was 210 on 9 August from the Horicon Marsh of Dodge County (Collison) followed by 150 on 28 August at the South Shore Yacht Club in Milwaukee County (Lubahn) and 126 on 5 October in Grant County (McKay).

Black-capped Chickadee—All totals better than 50 birds came from McKay in Grant County. The best of these totals were 82 on 5 October, 83 on 14 October, and 93 on 30 September.

Boreal Chickadee—There were reports from the counties of Forest and Vilas. The only total better than three was five on 30 August along Shelter Valley Road in Forest County (Maertz).

Great Tit—There were five reports of this exotic species, most of them coming from Harrington Beach SP and the Forest Beach Preserve in Ozaukee County. The exceptions were a find on 18 August in Sheboygan County (Tessen) and on 10 October in Sheboygan County of two birds (Rachel and Steve Holzman). The high count was four on 26 October at Forest Beach (McKay). There was confirmed breeding of this tit in two atlas blocks in far northeastern Ozaukee County (Susan Hopwood and Joan Sommer). It is likely this released bird will in the future become an accepted species in the state.

Tufted Titmouse—Reported from 44 counties, which compares to 39 in 2014, 34 in 2013, 36 in 2012, and 26 in 2011. The high count was 29 on 14 October at the Nelson Dewey SP in Grant County (McKay) followed by 15 on 10 September in Green Lake County (Roti Roti). The total of 29 is record high for the fall season. The former high had been 19 set on 24 October in Grant County by McKay.

Red-breasted Nuthatch—The most southern early season reports came from the counties of Dane, Grant, Green Lake, Milwaukee, and Waukesha. The high count was 41 on 21 November at the Port Wing Boreal Forest SNA in Bayfield County (Laura Erickson) followed by 35 on 14 September at the same location by Erickson. The nearest count to these was 19 on 15 November along Shelter Valley Road in Forest County (Haycraft and Yoerger).

White-breasted Nuthatch—The high count was 34 on 14 October in Grant County (McKay) followed by 33 on 27 November in Grant County (McKay) and 31 on 30 September at Ephraim in Door County (Sue Peterson).

Brown Creeper—Early season reports came from the counties of Door, Iron, Lincoln, Manitowoc, Oconto, Oneida, and Vilas. The high count was 29 on 14 October at Nelson Dewey SP in Grant County (McKay) followed by 25 on 9 October at the Forest Beach Preserve in Ozaukee County (W. Mueller) and 11 on 27 November at the Eagle Valley Preserve in Grant County (McKay).

House Wren—The last date was 23 October at Scout Lake in Milwaukee County (Abel) proceeded by 21 October at Hoyt Park in Milwaukee County (the Natural Areas Staff) and 20 October from a number of locations. The high count was 30 on 5 August at Cherokee Marsh in Dane County (Hampton) followed by 19 on 11 August in Columbia County (Doverspike) and 17 on 9 August at the Schlitz Audubon Center in Milwaukee County (Kellermann).

Winter Wren—After numerous reports in June and July, there were only nine reports for August. Early season reports came from the counties of Door, Florence, Forest, Green Lake, Marinette, and Vilas. Finds of Winter Wrens then continued through the winter season. The high count was nine on 14 October in Grant County (McKay) followed by six on 7 October at Eagle Valley in Grant County (Thiele).

Sedge Wren—Reported from 37 counties, which compares to 31 in 2014 and 34 in 2013 and 2012. The last dates were 15–18 October at Lark Barney in Dane County (many birders) and 21 October at Pheasant Branch in Dane County (Bailey). The high count was 18 on 1 August in Wood County (Prestby) followed by 10 on 6 August at Governor Nelson SP in Dane County (Bailey) and 10 on 9 August in Dunn County (Polk).

Marsh Wren—Reported from 43 counties, which compares to 30 in 2014 and 36 in 2013 and 2012. The last October date was 30 October in the counties of Manitowoc (Knickelbine) and Milwaukee (the Natural Areas Staff). These were followed by a find on 10–11 November at Fish Camp Park at Lake Kegonsa in Dane County (T. Baker and Lindemer). The high count was 25 on 9 August at the Paradise Valley SWA in Waukesha County (Hahn) followed by 15 on 22 September

at Vernon Marsh in Waukesha County (Grossmeyer).

Carolina Wren—Reported from 10 counties, which compares to 13 in 2014, 18 in 2013, and 22 in 2013 and 2012. This year's reports continues a recent trend of fewer counties reporting this bird. The high count was two on 14 October in Grant County (McKay) and two on 25 November at the Eagle Valley Nature Preserve in Grant County (Thiele).

Blue-gray Gnatcatcher—The northern range of reports extends (west to east) from the counties of Burnett, Washburn, Pierce, Marathon, Marinette and to Door. This is an extension north from last year, especially in the northwest. Reports extends well north along the western and eastern borders of Wisconsin but sag south in the center with few finds north of Marathon. The last dates were 19 September at UW Parkside in Kenosha County (Collison) and 27 September at Lake Park in Milwaukee County (Barry and Carol Moerke). The high count was 13 on 13 August at Riverside Park in Milwaukee County (Vokoun) followed by 11 on 22 August at Lake Park in Milwaukee County (Casper, Hunter, and Mooney) and 10 on 7 September at Goose Island in La Crosse County (Stratton).

Golden-crowned Kinglet—Early August reports came from the counties of Door, Forest, Vilas, and Waukesha. This kinglet's nesting range is mainly confined to the northern third of the state. But there are outliers, especially along the Kettle Moraine of Eastern Wisconsin. Perhaps the southernmost outlier is in southern Waukesha County. This year early season reports came from Lapham Peak and the Scuppernong Trail in the Kettle Moraine SF of Waukesha County (Szymczak). The high count was 45 on 9 October at Forest Beach in Ozaukee County (W. Mueller) followed by 38 on 3 October at Lake Park in Milwaukee County (Wanger).

Ruby-crowned Kinglet—Early August finds came from the counties of Door (DeNoto) and Forest (Maertz). The first reports of migrants south of nesting counties came on 26 August from the counties of Waukesha (Kinzer) and Wood (J. Kennedy and Kuzma Sell). Most migrant reports did not begin to show until mid-September. The last dates were 15 November at Cherokee Marsh in Dane County (Axelson) and 23 November in Milwaukee County (the Natural Areas Staff). Several individuals were then found into the winter season. The high count was 30 on 7 October at Washington Park in Milwaukee County (Gellman) followed by 25 on 28 September in Bayfield County (Brady) and 22 on 14 October at Nelson Dewey SP in Grant County (McKay).

Eastern Bluebird—The high count was 100 on 10 October at the Retzer Nature Center in Waukesha County (Stehno) followed by 65 on 26 September in St. Croix County (Persico) and 45 on 9 October in Polk County (Maercklein).

Townsend's Solitaire—There were two reports each of single birds. Those two were 1 November in Oneida County (Joshua Davis) and 20 November in Dane County (Jennifer Hays). For the second fall season there were no reports from Devil's Lake SP in Sauk County.

Veery—The last September dates were 29 September in Wood County (Merkel) and 30 September in Burnett County (Haseleu). These were followed by a find on 14 October in Manitowoc County (Sontag). The high count was six on 8 August from Rusk County (Prestby) followed by three from a number of locations.

Gray-cheeked Thrush—The first fall arrival date was 31 August in the counties of Marinette (J. Campbell) and Milwaukee (the Natural Areas Staff) followed by 1 September in the counties of Ashland (Anich) and Manitowoc (Sontag). The last dates were 18 October in Waukesha County (Horn) and 27 and 31 October in Outagamie County (R. Mueller). The high count was 22 on 18 September at the Sandscape SNA of the Apostle Islands in Ashland County (Brady) followed by 13 on 20 September at the Forest Beach Migratory Preserve in Ozaukee County (Beilke) and 10 on 9 September at Kohl Park in Milwaukee County (the Natural Areas Staff).

Swainson's Thrush—Although a nesting species in the northern reaches of the state, there were no late July or early August finds from any northern county. There were also no confirmed breeding reports from the Atlas Project. In late August there was a scant collection of finds in the nesting counties of Ashland and Bayfield but this was well after migration was in full force. The only late July reports came from the Schlitz Audubon Center in Milwaukee County (Bontly and Zehner). Reports then continued from Schlitz through the month of August. Other early August birds were found on 2 August at Loew Lake in Washington County (Wanger), 3 August in Kenosha County (Howe), and 10 August at a different location in Kenosha County (Hertz). For the first year of the Breeding Bird Atlas Project there were no Swainson's confirmed for breeding. The one probable report was of a singing bird in late May in Waupaca County, which is well south of the known nesting range

and may well have been a spring migrant. The first reports of likely fall migrants were 16 August in Waukesha County (Szymczak), 19 August at the Lion's Den in Ozaukee County (Strelka), 21 August in Door County (the Lukes), and 21 August at Grant Park in Milwaukee County (Lubahn). The last dates were 20 October along the Oak Creek Parkway in Milwaukee County (the Natural Areas Staff), 20 October at the Cook Arboretum in Rock County (Cullum), and 22 October at Harrington Beach SP in Ozaukee County (Brennan). The high count was 113 on 8 September in Ozaukee County (Brennan) followed by 45 on 5 September at Forest Beach in Ozaukee County (W. Mueller) and 42 on 19 September at the Lion's Den in Ozaukee County (Cutright).

Hermit Thrush—This nesting species was found near the start of the season in the counties of Ashland, Bayfield, Door, Florence, Forest, Iron, Oconto, Oneida, Vilas, and Wood. The first fall migrants beyond nesting counties were found on 7 and 8 September in different locations in Dane County (Bailey and Brezinski). There was not another report until 19 September when Hermits were found in the counties of Dane (Penthorn) and Winnebago (Benson). The high count was 46 on 14 October at Nelson Dewey SP in Grant County (McKay) followed by 20 on 15 October at the Schlitz Audubon Center in Milwaukee County (Bontly).

Wood Thrush—Reported from 29 counties, which compares to 24 in 2014 and 20 in 2013. The more northerly counties were Barron, Florence, Iron, Lincoln, Oneida, and Polk. The October departure dates were 1 October along the Kinnickinnic Parkway in Milwaukee County (the Natural Areas Staff), 5 October at Fox Point in Milwaukee County (Petherick), 11 October in Racine County (Howe), 16 October in Vernon County (Roth-Reynolds), and 25 October in Door County (the Lukes). The high count was five on 6 September at Pheasant Branch in Dane County (Romano) and five on 11 September at the UW Lakeshore Nature Preserve in Dane County (Howick).

American Robin—The high count was 1,036 on 28 September at the Brady House in Bayfield County (Brady) followed by 511 on 12 October at Forest Beach in Ozaukee County (Schaefer).

Varied Thrush—There were two reports, both of single birds. The first was 11–14 November at the home of Skip Perkins at Cable in Bayfield County, with the second on 24 November at Grantsburg in Burnett County (Annette Mosley).

Gray Catbird—As happens most years, finds of Catbirds extended into the winter season. The high count was 30 on 1 August along the Glacial Drumlin Trail in Jefferson County followed by 21 on 26 August from the UW Arboretum in Dane County (Henrikson) and 21 on 24 September in Grant County (McKay).

Brown Thrasher—As with the Gray Catbird, finds of Brown Thrashers continued into the winter season. The high count was four on the dates of 4 August in St. Croix County (Persico), 7 September in Brown County (Swelstad), and 13 September in Dane County (Bailey and Henrikson).

Northern Mockingbird—There was one report that being of one bird on 15 September on Washington Island in Door County (Walsh).

European Starling—The high count was 2,032 on 24 September in Grant County (McKay) followed by 1,500 on 29 November in the City of Green Bay, Brown County (Bridge) and 1,395 on 13 October in Grant County (McKay).

American Pipit—The first fall date was 6 September at the Anderson Sod Farm in Winnebago County (Dave and Kerry Sehloff) with birds then continuing to be found here past midmonth. The next report was for the period 12–15 September at Cat Island in Brown County (many birders) followed by 14–21 September at Wisconsin Point in Douglas County (many birders from Jaegerfest) and 18 September at Lake Barney in Dane County (Lindemer). Pipits then continued to be found into the winter season. The high count was 250 on 24 October in Waupaca County (Michael Gray) followed by 95 on 5 October in Racine County (Fitzgerald) and 75 on 30 October in Manitowoc County (Domagalski). The only historic count better than 250 was 400 on 30 September 2010 in Columbia County by John Romano.

Bohemian Waxwing—Found in the counties of Bayfield, Door, Douglas, and Iron. The first report was 3 November on Washington Island in Door County (Walsh) followed by 11 November in Bayfield County (Wendling) and 16 November at Sister Bay in Door County (Sue Peterson). The high count was 36 on 22 November at Lake Nebagamon in Douglas County (R. Johnson and Svingen) followed by 21 on 29 November at Mercer in Iron County (Brandt).

Cedar Waxwing—The high count was 481 on 12 October at Forest Beach in Ozaukee County (Schaefer) followed by 300 on 22 August at Lake Park in Milwaukee County (Casper,

Hunter, and Mooney) and 275 on 16 August at the Schlitz Audubon Center in Milwaukee County (Zehner).

Lapland Longspur—The first fall arrival was 13 September at Cat Island in Door County (Prestby) followed by 16 September at the Seagull Bar SNA in Marinette County (J. Campbell). The high count was 600 on 22 November in Rock County (Cullum) followed by 550 on 28 October in Sheboygan County (W. Mueller) and 400 on 27 November at the Eagle Valley Preserve in Grant County (McKay).

Snow Bunting—The first fall finds came on 16 October in the counties of Bayfield (Lehner), Brown (Prestby), and Oconto (Hurst). The next day, 17 October, Snow Buntings showed in the counties of Kewaunee (Walsh), Marinette (J. Campbell), and Sauk (Burrus). The high count was 200 on 21 November at Lerner Park in Dane County (Hottman) followed by 150 on 1 November at Maslowski Beach in Ashland County (Milender) and 120 on 25 October at Cat Island in Brown County (Swelstad).

Ovenbird—The last October dates were 8 October at Fox Point in Milwaukee County (Petherick) and 12 October at Harrington Beach SP in Ozaukee County (Walsh). These were followed by a find on 2 November at Madison in Dane County by Mike Bailey. There were then following finds in the month of December. These late dates were likely due to the mild fall and early December. The high count was six on the following dates: 8 August in Burnett County (Perlberg), 9 August in Marinette County (Holschbach), 3 September in Milwaukee County (Zehner), and 7 September in St. Croix County (Persico).

Louisiana Waterthrush—There were two reports, each of single birds. Those two were 1 August at Nelson Dewey SP in Grant County (Thiele) and 4 August at Bridget Lake in Polk County (Maercklein).

Northern Waterthrush—Early season reports for this nesting species came from the counties of Ashland, Dane, Forest, Milwaukee, and Wood. The last dates were 22 October at Riverside Park in Milwaukee County (Casper) and 26 October in Ozaukee County (McKay). The high count was 10 on 8 September at Pheasant Branch in Dane County (McDowell) followed by eight on 3 September at the Schlitz Audubon Center in Milwaukee County (Zehner).

Golden-winged Warbler—Early season finds for this northern nester came from the counties of Bayfield, Burnett, Douglas, Florence, Marinette, Rusk, Washburn, and Wood. The first migrant found beyond nesting counties was on 12 August at Barkhausen in Brown County (Swelstad). The next sightings were not until 21 August when there were finds in multiple locations in Dane and Milwaukee counties. The last dates were 25 September at three different locations in Dane County (Bailey, Henrikson, and Senner), 26 September at Lake Park in Milwaukee County (Huf), and 28 September at Maribel in Manitowoc County (J. Trick). The high count was six on 8 September at Pheasant Branch in Dane County (McDowell) and six on 10 September at the UW Lakeshore Preserve in Dane County (Howick).

Blue-winged Warbler—Unusually far north were finds on 16 August in Florence County (K. Kavanagh) and 29 August in Sawyer County (Pertile). Outside of these two finds, the northern limit of fall reports (extending west to east) were the counties of Polk, Dunn, Eau Claire, Clark, Marathon, Waupaca, Marinette, and Door. For the Breeding Bird Atlas Project, there was confirmed nesting as far north as Polk and Rusk counties. The last September dates were 23 September at Washington Park in Milwaukee County (Boynton) and 28 September at Grobschmidt Park in Milwaukee County (Fojut). These were followed by a find on 3 October in La Crosse County (Teskie). The high count was three from a number of dates and locations.

Brewster's Warbler (hybrid)—This hybrid between the Golden-winged and Blue-winged warbler was found on 20 August in Polk County (B. Collins) and 28 August in Milwaukee County (Mooney). There were other reports of Golden-winged/Blue-winged warblers but no clarification was made between Brewster's and Lawrence's hybrids.

Black-and-white Warbler—October departure dates were 4 October in Door County (the Lukes), 4 October at Glendale in Milwaukee County (Spencer), and 10 October at Harrington Beach SP in Ozaukee County (Walsh). The high count was eight on 12 September at Pheasant Branch in Dane County (Nikiforov) followed by seven on 11 September at Kinnickinnic SP in Pierce County (Versaw) and six on 31 August in Outagamie County (R. Mueller) and six on 9 September at Colonial Park in Racine County (Wood).

Prothonotary Warbler—There were six fall reports. Those six were 4 August in Grant County (John and Kristen Anderson-Bricker), 11 August in Dodge County (Schrab), 12 August at a different location in Dodge County (Schaefer), 24 August in Jefferson County (Stutz), 30 August in

Trempealeau County (M. Anderson), and 7 September in La Crosse County (Stratton).

Tennessee Warbler—There were no confirmed nesting records during the first year of the Breeding Bird Atlas Project. What were likely fall migrants began to show as early as 19 July. From 19 July through early August there were regular reports from the Brady House in Bayfield County. Outside of the Brady residence, the only early season reports were 1 August in Manitowoc County (Domagalski), 3 August in Rock County (Cullum), and 5 August in Forest County (Richmond). The next finds did not come until after mid-August. The last October dates were 19 October at the Schlitz Audubon Center in Milwaukee County (Bontly, Huf, and Zehner), 13–20 October in La Crosse County (Wiegel), and 22 October at the South Metro Pier in Milwaukee County (Mooney). These were followed by a documented find on 13 November at the Community Gardens in Milwaukee County (Lubahn and Wanger). There are only four state departure records beyond 13 November. The high count was 40 at the following locations: 1 September at Warnimont Park in Milwaukee County (the Natural Areas Staff), 8 September at Cat Island in Brown County (Swelstad), 20 September at Fischer Creek in Manitowoc County (Domagalski), and 25 September at Nelson Dewey SP in Grant County (Thiele).

Orange-crowned Warbler—The first fall arrival was 9 September at the Brady House in Bayfield County followed by 10 September at Pike Lake SF in Washington County (Schaefer) and 12 September in St. Croix County (Persico). The last dates were 23 October at Olin Park in Dane County (Shah) and 26 October at Brown Deer Park in Milwaukee County (the Natural Areas Staff). The only counts better than five were 13 on 5 October in Grant County (McKay) and 18 on 13 October at Eagle Valley in Grant County (McKay). The only fall total greater than 18 is 43 set on 30 September 1970 in Dane Count by John Emlen.

Nashville Warbler—The last dates were 17 October at the Edna Taylor Park in Dane County (Brezinski and Murrell), 18 October at Prentice Park in Ashland County (Oksiuta), and 19–20 October in Outagamie County (R. Mueller). In the period 3–26 August Brady had a number of double digit reports from his home in Bayfield County. His high count was 45 on 26 August followed by 22 on 10 August. Outside of the Brady House, the high was 15 on 30 September at UW Lakeshore Preserve in Dane County (DeRubeis) followed by 14 on 10 August in Florence County (K. Kavanagh).

Connecticut Warbler—Reported from 12 counties, which compares to seven in 2014 and eight in 2013. The only early season report was 1 August from Vilas County (Ma Martin). The last fall dates were 27 September in Grant County (McKay), 28 September in Manitowoc County (Domagalski), and 28 September in Milwaukee County (the Natural Areas Staff). The high count was two on 28 September at Mangan Woods in Milwaukee County (the Natural Areas Staff).

Mourning Warbler—There were early season reports from 11 counties. The last dates were 22 September at the D. D. Kennedy Park in Polk County (Maercklein) and 27 September in Grant County (McKay). The high count was nine on 3 August at the Brady House in Bayfield County (Brady) followed by five on 5 August in Bayfield County (Brady).

Kentucky Warbler—A single bird was found on 26 August at the home of Anne Moretti in Waukesha County.

Common Yellowthroat—The last October date was 20–21 October at the Schlitz Audubon Center in Milwaukee County (Bontly and Zehner). November departure dates were 1 November at North Beach in Racine County (Howe) followed by 26 November at the Kewaunee Harbor in Kewaunee County (Sinkula). The high count was 47 on 1 August in Wood County (Prestby) followed by 46 on 1 August in Jefferson County (Stutz) and 30 on 3 September in Brown County (Swelstad).

Hooded Warbler—Reported from six counties, which compares to seven in 2014 and six in 2013. As has become the norm, most reports came from Andrea Szymczak in the Kettle Moraine State Forest of Waukesha County. Outside of her numerous reports of Hooded Warblers in September and early October, the only September finds were 3 September in Dane County (M. Adams), 4 September in Waukesha County (Moretti), and 23 September in Washington County (Faith). The last date was 4 October at Lapham Peak in Waukesha County (Szymczak). The high count was eight on 1 August and on 5 September in Waukesha County (Szymczak).

American Redstart—The last October date was 9 October in the counties of La Crosse (Stratton) and Milwaukee (Fellows). This was followed nearly a month later by a find on 3 November at Burrows Park in Dane County (Bridge). The high count was 22 on 8 September at the Lion's Den in Ozaukee County (Cutright and Sher) followed by 20 on the following dates and locations: 7 Sep-

tember at Goose Island in La Crosse County (Stratton), 8 September at Pheasant Branch in Dane County (McDowell), and 19 September at the UW Lakeshore Preserve in Dane County (Krietinger). The total of 22 is the lowest high since 20 in 1982.

Cape May Warbler—Early season reports of this northern nester came from the counties of Ashland, Door, Forest, and Marinette. The first show of a migrant south of nesting counties was 8 August in Clark County (Lund) not to be followed until 19 August in Dane County (Witynski). The last dates were 6 October in Bayfield County (Brady), 6 October in Grant County (Thiele), and 17 October in Milwaukee County (Barry and Carol Moerke). The high count was 10 on 8 September at the Forest Beach Preserve in Ozaukee County (Brennan) followed by nine on 19 September in Lake Park in Milwaukee County (Mooney) and nine on 19 September at Harrington Beach SP in in Ozaukee County (Brennan).

Cerulean Warbler—There were four August reports, all of single individuals. Those four were 1 August at Nelson Dewey SP in Grant County (Thiele), 6 August in Crawford County (Kirschbaum), 13 August at the Eagle Valley Preserve in Grant County (Thiele), and 29 August at Nelson Dewey SP in Grant County (Thiele).

Northern Parula—This northern nester was found near the start of the season in the counties of Ashland, Door, Douglas, Florence, Forest, Iron, and Vilas. The first finds of migrants beyond nesting counties were 15 August at the Marsh Haven Nature Center in Fond du Lac County (Massa), 17 August at Warnimont Park in Milwaukee County (the Natural Areas Staff), and 22 August at St. Nazianz in Manitowoc County (Domagalski). The last October dates were 7 October at the Schlitz Audubon Center in Milwaukee County (Huf), 8 October in Outagamie County (R. Mueller), and 11 October at Warnimont Park in Milwaukee County (Wood). These were followed by a photographed and documented find on 25 November at the UW Lakeshore Preserve in Dane County (Mike Bailey). This 25 November date matches the record late date set on 25 November 1972 in Iowa County by Robert Ellarson. The high count was five on 12 September at Pheasant Branch in Dane County (Nikiforov and Turski) followed by four on 1 September at Harrington Beach SP in Ozaukee County (Brennan) and four on 2 September at Bay Beach in Brown County (Malcolm).

Magnolia Warbler—The first fall finds of this northern nester came from the counties of Bayfield, Door, Forest and Vilas. There was also a report for 6 August at Point Beach SF in Manitowoc County (Moline) where this species had been confirmed for nesting in past years. The first migrants were 12 August at the UW Arboretum in Dane County (Henrikson) and 18 August at the Schlitz Audubon Center in Milwaukee County (Bontly and Zehner). The last dates were 11 October at Warnimont Park in Milwaukee County (Wood), 12 October at the Fischer Creek Conservation Area in Manitowoc County (Domagalski), and 17 October at Beaver Dam in Dodge County (Pritchard). The high count was 12 on 19 September at Lake Park in Milwaukee County (Mooney) followed by 10 on 20 September at Fischer Creek in Manitowoc County (Domagalski) and nine on 9 September at Lake Park in Milwaukee County (Huf).

Bay-breasted Warbler—An unusually early fall bird was found on 3 August at the Brady House in Bayfield County (Brady and Oksiuta). The next find was not until 21 August, which was also at the Brady House (Brady). The first reports beyond the Brady House were on 26 August in the counties of Door (Sue Peterson), Eau Claire (Lind), and Milwaukee (the Natural Areas Staff). The last October dates were 6 October in Rock County (Boone) and 10 October in Rock County (Cullum). Beyond these was a find on 2 November at Bender Park in Milwaukee County (McKinley). This date is one of the latest on record with but five historic dates beyond it. The high count was five on 18 September from the counties of Milwaukee (the Natural Areas Staff) and Brown (Swelstad).

Blackburnian Warbler—Early season finds of this northern nester came from the counties of Ashland, Bayfield, Burnett, Door, Forest, Iron, Marinette, and Vilas. The first report beyond a nesting county was on 13 August in Marathon County (Hurlburt) followed on 14 August by sightings in the counties of Outagamie (R. Mueller) and Milwaukee (the Natural Areas Staff). The last fall date was 26 September at Lapham Peak in Waukesha County (Szymczak) proceeded by 24 September at Stricker's Pond in Dane County (Bailey) and 24 September at Veterans Park in Milwaukee (Book). The high count was six on 9 September at the Lion's Den in Ozaukee County (Bauer) followed by five on 25 August at the UW Arboretum in Dane County (Henrikson).

Yellow Warbler—The last September dates were 18–19 September at Wisconsin Point in Douglas County (numerous Jaegerfest birders) and 21 September in Iowa County (Kivikoski). These were followed by finds on 1 October in Dodge County (Tessen) and 5 October at St. Nazianz in Manitowoc County (Domagalski). The

high count was 12 on 3 August at Point Sable in Brown County (Beilke) followed by 11 on 11 August at Bender Park in Milwaukee County (the Natural Areas Staff).

Chestnut-sided Warbler—October departure dates were 1 October at Owen Park in Dane County (Herb), 3 October at Lake Park in Milwaukee County (Wanger), and 6 October at Caryville in Dunn County (Heagle). The high count was 13 on 9 August in Marinette County (Holschbach) followed by 12 on 23 August at Pheasant Branch in Dane County (McDowell).

Blackpoll Warbler—The first fall arrival dates were 22 August at the Forest Beach Preserve in Ozaukee County (W. Mueller) and 24 August at the Oak Creek Parkway in Milwaukee County (the Natural Areas Staff). These were followed by numerous reports on 26 August from the counties of Bayfield, Dane, Milwaukee, and Sheboygan. The last dates were 25 and 27 October at the South Metro Pier in Oak Creek, Milwaukee County (Lubahn and Wanger) and 1 November at the South Metro Pier in Milwaukee County (many birders). The high count was 52 on 19 September at Harrington Beach SP in Ozaukee County (Brennan) followed by 50 on 19 September at the Lion's Den in Ozaukee County (Cutright). The only historical fall total higher than 52 is 80 set on 31 August 1993 in Ashland County by Tom Schultz.

Black-throated Blue Warbler—The only early season reports came from the counties of Door (the Lukes), Marinette (K. Kavanagh and A. Holschbach) and Vilas (Ma Martin, Martineau, and Toner). The first finds south of nesting counties were 26 August in Eau Claire County (Lind) and 28 August at the Schlitz Audubon Center in Milwaukee County (Bontly, Finney, and Zehner). The last dates were 6 October at Concordia University in Ozaukee County (Arnholt), 7 October at Harrington Beach SP in Ozaukee County (Brennan), and 7 October in Rock County (Astin). The high count was three on 23 September at Warnimont Park in Milwaukee County (the Natural Areas Staff).

Palm Warbler—Early season finds came from the counties of Oneida (David and Stone) and Wood (Prestby). Wood County is unusually south for nesting. At the Hog Island SNA in Wood County, Prestby had this species as a probable nester for the Breeding Bird Atlas Project. The 8 August report from Oconto County (Julie Woodcock) and the 11 August report from Devils Lake SP in Sauk County (Eppig) were likely early migrants and were not followed by another until 29 August at High Cliff SP in Calumet County (Fry). The last October dates were 25 October at Goose Pond in Columbia County (Holschbach), 25 October at the South Metro Pier in Milwaukee County (Lubahn), and 30 October at Beckman Mill Park in Rock County (Boone). These were followed by a find on 15 November in Polk County (Berg). The high count was 55 on 29 September at the Forest Beach Preserve in Ozaukee County (W. Mueller) followed by 50 on 22 September at Crex Meadows SWA in Burnett County (Wheeler), 50 on 21 September at Lake Barney in Dane County (Shawn Miller), and 50 on 28 September at the Brady house in Bayfield County (Anich).

Pine Warbler—The last dates were 7 October in the Kettle Moraine SF in Waukesha County (Szymczak), 11 October in Door County (the Lukes), and 13 October at Forest Beach and the Lion's Den in Ozaukee County (Wood). The high count was seven on 29 August in Portage County (Kozak) followed by six on 6 August in Florence County (K. Kavanagh) and six on 6 August in Oneida County (Herzberg).

Yellow-rumped Warbler—The last fall reports were 22 November in Waushara County (Paulios) and 24 November at the Trempealeau NWR in Trempealeau County (Tessen). These were followed by reports well into the winter season. The high count was 290 on 19 September at the Brady House in Bayfield County (Brady), followed by 128 on 23 September at the same location (Brady) and 115 on 4 October along the Glacial Drumlin Trail in Jefferson County (Stutz).

Yellow-throated Warbler*—One bird was found on 1 August at Nelson Dewey SP in Grant County (Thiele).

Black-throated Green Warbler—Found near the start of the season in the nesting counties of Bayfield, Door, Florence, Forest, Iron, Jefferson, Marinette, Price, Vilas, and Waukesha. The birds reported from Jefferson and Waukesha counties by Szymczak are an extreme southern outlier of nesting in the state. The first find of a migrant beyond nesting counties was on 17 August in Racine County (Pugh). This was not followed until 25 August when there were numerous reports from the counties of Dane, Milwaukee, Ozaukee, and Washington. The last dates were 12 October in Dane County (Cooper), 12 October at the Wehr Nature Center in Milwaukee County (Tikalsky), and 13 October at Lake Park in Milwaukee County (Wanger). The high count was nine on 1 August at Lynd Point in Door County (Walton) followed by seven on 6 September as Basswood Island in Ashland County (Merkel) and seven on 12 September at Pheasant Branch in Dane County (Nikiforov).

Canada Warbler—Early season reports of this nesting species came from the counties of Bayfield, Brown, Door, and Marinette. The first finds of migrants beyond nesting counties were 18 August in Dane County (Witynski) and 20 August in Polk County (B. Collins). The last September dates were 24 September at McGovern Park in Milwaukee County (the Natural Areas Staff), 24 September at Willow River SP in St. Croix County (Swanson), and 27 September at Bender Park in Milwaukee (Abel). These were followed by a find on 4 October at Glendale in Milwaukee County (Spencer). The high count was three on 5 August in Bayfield County (Brady).

Wilson's Warbler—The first fall migrant was found on 21 August at the Brady House in Bayfield County (Brady) and at Pheasant Branch in Dane County (Bridge and Lindemer). The next date was 24 August at Pheasant Branch (McDowell) and at the Schlitz Audubon Center in Milwaukee County (McCaw). The last dates were 2 October at Warnimont Park in Milwaukee County (Wood), 4 October at Lake Park in Milwaukee County (Wanger), and 4 October in Glendale in Milwaukee County (Spencer). The high count was eight on 13 September at Monticello in Green County (McGowan) followed by five on 19 September at the same place by McGowan.

Yellow-breasted Chat—The one fall report was of one bird on 27 August at Mt. Zion in Crawford County by Mike Sandstrom.

Eastern Towhee—The last fall dates were 15 November at Pheasant Branch in Dane County (McDowell) and 23 November in Waukesha County (Nielsen). Small numbers of towhees were then found into the winter season. The only counts better than eight were 13 on 3 October in Grant County (McKay) and 18 on 5 October in Grant County (McKay).

American Tree Sparrow—The first fall date was 26 September at the City of Waupaca in Waupaca County (Malcolm and O'Connell) followed by 27 September in Oneida County (Seymer). The high count was 175 on 21 November at Ryan Park in Waukesha County (Hahn) followed by 168 on 20 November in Milwaukee County (Lubahn) and 166 on 23 October in Burnett County (Maercklein).

Chipping Sparrow—The last fall dates were 23 November at Madison in Dane County (Otto) and 25 November at Oshkosh in Winnebago County (Benson). Individual Chipping Sparrows were then found into the winter season. The high count was 64 on 24 September in Grant County (McKay) followed by 50 on 12 August in Vilas County (Coulter and Adam and Gina Kent) and 45 on 10 August at Port Wing in Bayfield County (Laura Erickson).

Clay-colored Sparrow—The last dates were 10 October at the Empire Prairies SNA in Dane County (Holschbach) and 11 October at the Carpenter Nature Center in St. Croix County (Persico). The high count was 12 on 26 September in Waupaca County (R. Mueller) followed by eight on 11 August at Bender Park in Milwaukee County (the Natural Areas Staff) and eight on 16 September in Menominee County (Wilken).

Field Sparrow—The last dates were 11 November at the UW Arboretum in Dane County (Bonk), 11 November at Havenwoods SF in Milwaukee County (Wood), and 13 November in Iowa County (Kivikoski). This sparrow was then found in small numbers into the winter season. The high count was 15 on 22 September at the Retzer Nature Center in Waukesha County (Schaefer and Szymczak) and 15 on 28 September at the Schurch-Thomson Prairie in Iowa County (Hottman).

Vesper Sparrow—The last dates were 24 October in Dane County (Thiessen) and 25 October at Jamieson Park in Columbia County (King). Small numbers of Vesper Sparrows were then found into the winter season. The high count was nine on 20 September in Douglas County (Haycraft and Yoerger) followed by five from a number of locations.

Lark Sparrow—Early season reports came from the counties of Dane, Rock, and Sauk. The last date was 11 August in the counties of Columbia (Doverspike) and Sauk (Walsh). The high count was five on 1 August at Nekoosa in Wood County (Prestby).

Savannah Sparrow—The last fall date was 28 November in the counties of Dane (Thiessen) and Trempealeau (Haycraft and Yoerger) with Savannahs continuing to be found into the winter season. In the period 3–22 October 20+ Savannahs were found on a regular basis at the Evansville SWA in Rock County with the high being 30 on 3 October (Perlberg). Outside of the Evansville SWA, the high count was 18 on 4 October at the Carpenter Nature Center in St. Croix County (Persico).

Grasshopper Sparrow—There were August reports from the counties of Columbia, Green, Jefferson, Lafayette, Rock, and Sauk. The last dates were 12 August at the Spring Green Pre-

serve in Sauk County (Holschbach) and 18 August at Darlington in Lafayette County (Kivikoski). The only count greater than one was 10 on 1 August at the Marbleseed Prairie in Green County (Haycraft and Yoerger). The only historic counts greater than 10 are 11 on 4 August 2001 and 11 on 5 August 2009 (both in Sauk County by Aaron Holschbach).

Henslow's Sparrow—Reported from eight counties, which compares to nine in 2014, 14 in 2013, and 10 in 2012. Early season finds came from the counties of Dane, Dodge, Green Lake, Iowa, and Milwaukee. The last August report was 27 August at the Horicon Marsh of Dodge County (Daugherty). The only finds beyond this were 26 September at the Evansville SWA in Rock County (Perlberg) and 7 October at this same location (Thiessen). The high count was four on 3 August at the Puchyan Prairie SNA in Green Lake County (Schultz).

Le Conte's Sparrow—There were no August finds of this nesting species. The only September dates were 18 September at Lake Barney in Dane County (Lindemer) and 28 September at the Crex Meadows SWA in Burnett County (Thornton). Nearly all the fall reports were of migrants in the month of October with the great majority of these reports coming from Lake Barney in Dane County. The last Lake Barney date was 17 October (Hampton, Hottman, and Dunnington). The only find beyond this date was 22 October at the Evansville SWA in Rock County (Thiessen). All reports were of one or two individuals.

Nelson's Sparrow—Reported from six counties, which compares to four in 2014 and 11 in 2013. As with the Le Conte's Sparrow, the great majority of reports came from Lake Barney in Dane County. The first date was 21 September at Lake Barney (Thiessen). The last date at Lake Barney was 15 October (Bonk and Schwarz). The last state dates were 18 October at Goose Pond in Columbia County (Carlton) and 20 October at the Adam Birding Conservancy in Jefferson County (Bridge). The high count was four over the period 23–26 September at Lake Barney.

Fox Sparrow—The first fall find was 26 September in Pierce County (Rudesill) with numerous arrivals during the remaining days of September. Numbers of these sparrows then remained into the winter season. The high count was 47 on 7 October at the Brady House in Bayfield County (Brady) followed by 23 on 24 October in La Crosse County (Tyser) and a number of reports of 15.

Song Sparrow—This sparrow was found throughout the period and into the winter. The high count was 75 on 1 August at the Zeloski Marsh in Jefferson County (Stutz) and 75 on 4 October at Pheasant Branch in Dane County (Grossmeyer) followed by 70 on 11 August at the Zeloski March (Stutz).

Lincoln's Sparrow—There were early season reports of this nesting species from the counties of Bayfield, Florence, Forest, Lincoln, Vilas, and Wood. This is an improvement over but one such county (Iron) in 2014. The first find south of nesting counties was 3 September in Portage County (Seiler) followed by 5 September at Bender Park in Milwaukee County (McKinley) and 5 September at Lake Park in Milwaukee County (Huf). November departure dates were 6 November at the Hook Lake SWA in Dane County (Shawn Miller) and 20 November at the Havenwoods SF in Milwaukee County (McCaw). Small numbers of Lincoln's Sparrows were then found into the winter season. The high count was 17 on 28 September at the Brady House in Bayfield County (Brady) followed by 15 on 25 September in Kenosha County (Lubahn and Wanger) and 15 on 6 October in Milwaukee County (Lubahn).

Swamp Sparrow—This sparrow was found throughout the fall and then into the winter. The high count was 40 on 30 September at the Crex Meadows SWA in Burnett County (Thornton) followed by 35 on 15 August at the Horicon Marsh of Dodge County (Massa) and 31 on 18 October at Lake Barney in Dane County (Daw).

White-throated Sparrow—The first fall migrants safely beyond nesting counties were 16 August at the Horicon Marsh in Dodge County (Grossmeyer) followed by 27 August at the same place (Swift) and 29 August at two locations in Portage County (Seiler and Zinda). The high count was 323 on 22 September in Douglas County (Frank) followed by 200 on 7 October at the Eagle Valley Preserve in Grant County (Thiele).

Harris's Sparrow—Reported from 15 counties, which compares to 12 in 2014 and 10 in 2013. The first fall sighting was on 26 September at Meyers Beach in the Apostle Island of Bayfield County (Geraghty) followed by numerous reports on 29–30 September. The only November finds were 7 November at a feeder in Trempealeau County (Ray) and a bird over the period 13–29 November at the feeder of Tim Oksiuta in Bayfield County (Oksiuta). As is normal, numbers of Harris's Sparrows were then found in the winter season. The high count was six on 29 September near Red Cliff in Bayfield County (Anich and

Brady) followed by five on 12 October at the Brady House in Bayfield County (Brady).

White-crowned Sparrow—The first fall dates were 17 September in Vilas County (Hahn), September 18 at the Sandscape SNA in the Apostle Islands of Ashland County (Brady), and 18 September at the Schlitz Audubon Center in Milwaukee County (Zehner). As is normal, numbers of White-crowned then remained into the winter season. Counts of better than 100 were 135 on 30 October at the Forest Beach Preserve in Ozaukee County (W. Mueller) and 150 over the period 9–11 October at the Rawson Avenue Community Gardens in Milwaukee County (Goodman, Lubahn, and Wood).

Dark-eyed Junco—Early season reports came from the counties of Oneida and Vilas. An unusually early migrant was found 15 August in Waukesha County (Szymczak). The first September dates of migrants south of nesting counties were 11 September in Sheboygan County (Brasser), 12 September at Lake Park in Milwaukee County (Hickey, Huf, McCaw, and Mooney), and 13 September at Cherokee Marsh in Dane County (Steve Wood). The high count was 250 from near Red Cliff in Bayfield County (Anich and Brady) followed by 150 on 7 October at the Brady House in Bayfield County (Anich) and 138 on 18 September at the Sandscape SNA in the Apostle Islands of Ashland County (Brady).

Summer Tanager—There were three reports, each of single birds likely at feeders. Those three were 25 September in Racine County (Pugh), 15–17 November in Brown County (Green), and 21–22 November at Lake Nebagamon in Douglas County (first by Gockman). This has become an increasingly regular species for the fall season. The first fall record dates back to 1956 and was not followed by another until 1969. Starting with 2007 this tanager has been found every fall.

Scarlet Tanager— October departure dates were 5 October at the McKinley Marina and Park in Milwaukee County (the Natural Areas Staff), 6 October at the Eagle Valley Preserve in Grant County (Thiele), and 11 October at the UW Arboretum in Dane County (Henrikson). The high count was six on 27 September in Grant County (McKay) followed by five on 23 August at Sunnyvale Park in Marathon County (Belter).

Northern Cardinal—The high count was 44 on 16 August in Marinette County (J. Campbell) followed by 41 on 5 October in Grant County (McKay) and 39 on 26 September in Grant County (McKay).

Rose-breasted Grosbeak—The last fall date was 11 October at Pheasant Branch in Dane County (McDowell) and at Mauthe Lake in Fond du Lac County (Lally). Despite that no Rose-breasted were noticed beyond early October, small numbers were later found in the winter season. The high count was 35 on 8 August in Clark County (Lund) followed by 24 on 24 September in Grant County (McKay).

Indigo Bunting—The last dates were 10 October in Milwaukee County (Lubahn), 12 October at Pheasant Branch in Dane County (Lindemer and McDowell), and 31 October through 1 November at the Brady House in Bayfield County (Brady). The high count was 21 on 4 August in Rock County (Haycraft) followed by 16 on 24 September in Grant County (McKay) and 14 on 8 August in Sauk County (Heikkinen and Unson).

Dickcissel—Reported from 10 counties, which compares to 11 in 2014, 17 in 2013, and 19 in 2012. The last dates were 12 August in Green Lake County (Roti Roti), 13 August in Green County (McGowan), and 27 August at the Richard Bong SRA in Kenosha County (Wanger). The only total better than two was nine on 4 August at the Lake Petite Prairie in Walworth County (Smallwood).

Bobolink—The last fall dates were 15 October in Milwaukee County (Frank) and 22 October at the Evansville SWA in Rock County (Thiessen). The 22 October date is rather late with but three historic records beyond that date. The high count was 48 on 1 August in Wood County (Prestby) followed by 31 on 31 August in Rock County (Cullum).

Red-winged Blackbird—All of the high counts came from McKay in Grant County. His best totals were 15,210 on 24 September, 8,347 on 14 October, and 6,390 on 22 September. Outside of Grant County, the high was 4,000 on 1 and 7 November at the Horicon Marsh of Dodge County (Stutz and Tessen).

Eastern Meadowlark—The last dates were 11 November at Oconomowoc in Waukesha County (Kinzer), 14 November at Monticello in Green County (McGowan), and 24 and 27 November in Grant County (McKay). A scattering of meadowlarks was then found into the winter season. The high count was 35 on 13 August near Mineral Point in Iowa County (Kivikoski) followed by 25 on 25 September in Iowa County (Kivikoski) and 21 on 5 October in Grant County (McKay).

Western Meadowlark—There were eight fall reports, each of them of single birds. The last dates were 6 November at Lake Park in Milwaukee County (Mooney), 16 November at the Community Gardens in Milwaukee County (Wanger), and 22 November at Goose Pond in Columbia County (Mayer).

Yellow-headed Blackbird—Reported from nine counties, which compares to 12 in both 2014 and 2013. Found near the start of the season in the counties of Dodge, Fond du Lac, Jefferson, Manitowoc, and Outagamie. The last September date was 26 September at Cat Island in Brown County (Jan Hansen and Prestby). The only find beyond this date was 21 November at La residence de Robbye in Douglas County (R. Johnson and Svingen). The high count was 18 on 9 August at the Horicon Marsh of Dodge County (Collison) followed by 16 on 5 August at the same place (TeSlaa). Outside of the Horicon Marsh, the high count was 10 on 1 September at the Zeloski Marsh in Jefferson County (Stutz).

Rusty Blackbird—The first fall finds were on the unusually early dates of 22 August at the Coffee Swamp SNA in Door County (Wanger) and 24 August in Dodge County (Tessen). These was not followed by other finds until 12 September at the Brady House in Bayfield County (Brady) and 19 September in Kenosha County (Collison). The last fall find was 26 November in Green County (Yoerger), which was followed by finds into the winter season. The high count was 600 on 17 October at the Horicon Marsh of Dodge County (Rohde) followed by 500 on 1 November at Lake Kegonsa in Dane County (Chambers) and 468 on 7 October at the Brady House in Bayfield County (Brady).

Brewer's Blackbird—Early season reports came from the counties of Florence (K. Kavanagh) and St. Croix (Umlauf). November reports were 1–7 November from various locations in Dodge County (Dunnington, Frank, and Wood) and 17 November at Ripon in Fond du Lac County (Rossiter and Rothe). The high count was "several thousand" at Dummer's Pond in Dunn County (Polk) followed by 700 on 30 August in Portage County (Belter and Hurlburt) and 600 on 7 November in Dodge County (Tessen).

Common Grackle—All of the high counts were by McKay in Grant County. His best totals were 17,047 on 24 September, 11,437 on 13 October, and 4,748 on 14 October. Outside of Grant County the high was 1,660 on 22 October at the Koshkonong SWA in Jefferson County (Bridge). The only historic fall totals better than 17,047 are 20,000 on 14 October 1982 and 35,000 on 8 October 1984 (both in Marathon County by Janice and Ken Luepke).

Brown-headed Cowbird—The last fall dates were 22 November in Jefferson County (Scherer) and 27 November in Dane County (Berglund) with birds then continuing into the winter season. The only totals better than 100 were 500 on 28 August at the Horicon Marsh in Dodge County (Tikalsky) and 700 on 4 October in Dane County (Holschbach).

Orchard Oriole—Reported from 14 counties, which compares to nine in 2014 and 13 in 2013. The 14 counties reporting Orchard Orioles is record high. The only other double digit total is 13 in 2013. The northern limit of sightings (from west to east) were the counties of St. Croix, Eau Claire, Brown, and Manitowoc. September reports were 9 September at the Mequon Nature Preserve in Ozaukee County (Cutright) and 30 September at the Forest Beach Preserve in Ozaukee County (Wood). These were followed by a find on 20 October in Milwaukee County (Barry and Carol Moerke). The 20 October date is record late and is but the second find of this species in the month of October. The other October date is 14 October 1943 in Milwaukee County by Murl Deusing. The high count was six on 2 August at the Killsnake SWA in Manitowoc County (Domagalski) followed by five on 2 August at Mt. Zion in Crawford County (Sandstrom) and five on 18 August in Manitowoc County (Watson).

Baltimore Oriole—The last September sighting was 18 September at the Arena Boat Landing in Iowa County (Holschbach) preceded by 15 September at the Eagle Valley Nature Preserve in Grant County (Thiele) and 15 September in Waukesha County (Marvelli). These were followed by a find on 20 November in Door County (Jim Baxter) and 21 November at Osceola in Polk County (Hudick). Small numbers of orioles were then found into the winter season. The high count was 21 on 24 August at the feeders of Judy Lund in Clark County followed by 19 on 21 August in Clark County (Lund), 18 on 10 August at Wind Point in Racine County (Hertz), and 17 on 2 August at Mt. Zion in Crawford County (Sandstrom).

Pine Grosbeak—This was a better fall season for Pine Grosbeaks than the previous two. Last year there were but two fall finds. This year there were 18 reports. These finds were confined to the northern counties of Ashland, Bayfield, Douglas, Marinette, Oconto, and Vilas. The first dates were 1 November in Forest County (Goodman), 3 November in Ashland County (Brady),

and 4 November in Oconto County (Straub). The high count was eight on 9 November in Bayfield County (Laura Erickson).

House Finch—This bird was not reported for the northern counties of Bayfield, Douglas, Forest, Florence, Iron, Lincoln, Oneida, Price, Sawyer, Taylor, and Vilas. The high count was 155 on 12 October at the Forest Beach Preserve in Ozaukee County (Schaefer) followed by 110 on 10 October at the Empire Prairies SNA in Dane County (Holschbach) and 100 on 13 November at the Community Gardens in Milwaukee County (Lubahn and Wanger).

Purple Finch—This nesting species was found near the start of the season in 14 counties, which compares to 10 in both 2014 and 2013. The first fall migrant south of nesting counties was 27 August at Mt. Zion in Crawford County (Sandstrom) followed by a number of finds on 28 August. The high count was 226 on 12 October at the Forest Beach Migratory Preserve in Ozaukee County (Schaefer) followed by 85 on 2 November at the same location (Schaefer) and 37 on 7 October at the Brady House in Bayfield County (Brady). On 19 October 2014 Schaefer had 180 Purple Finch fly past his hawk watch location at Forest Beach. The only fall total higher than these 180 and 226 is 300 on 27 October 1996 in Oconto County by Jerry and Karen Smith.

Red Crossbill—Red Crossbills were confirmed for breeding by the Atlas Project in the counties of Ashland, Bayfield, and Marinette. The last summer report for this crossbill was on 23 July in Rusk County (Prestby). The next find did not come until 11 September in the counties of Door (B. Baumann) and Polk (B. Collins). These were quickly followed on 12 September by finds in Bayfield County (Brady) and at a second location in Polk County (B. Collins). The high count was 50 on 27 October at Wisconsin Point in Douglas County (Moss) followed by 21 on 25 November near Spaulding in Jackson County (Watson).

White-winged Crossbill—There were no confirmed or probable breeding records for the Atlas Project in 2015. The first fall find was on 25 October in Bayfield County (Evrard) followed by 30 October at the Brady House in Bayfield County (Brady). These were followed by only four reports in November. The only sighting beyond the counties of Ashland, Bayfield, and Douglas was on 15 November at Forest Beach in Ozaukee County (Brennan). All reports were of one or two birds.

Common Redpoll—There were reports from 28 counties, with finds coming from as far south as the counties of Dane, Dodge, Jefferson, Milwaukee, Racine, and Waukesha. The first fall date was 17 October at Wisconsin Point in Douglas County (R. Johnson and Svingen) followed by 18 October in the counties of Bayfield (Brady) and Ozaukee (Brennan). The high count was 100 on 16 November at Porterfield in Marinette County (Watson) followed by 95 on 30 October at the Brady House in Bayfield County (Brady) and 90 on 11 November at another location in Bayfield County (Brady).

Pine Siskin—The only August reports were 2 and 4 August in Eau Claire County (Carey and Ryan Chrouser), 10 August in Dane County (Holschbach), and 30 August in Bayfield County (Brady). The high count was 1,003 on 21 November at the Forest Beach Migratory Preserve in Ozaukee County (Schaefer) followed by 900 on 2 October at Rock Island in Door County (Walsh) and 675 on 29 September at Harrington Beach SP in Ozaukee County (Brennan). These are the highest counts of individuals since 3,000 on 9 November 1971 in Oconto County (Thomas Erdman). The record high for the fall season is 40,000 reported on 21 October 1969 at the Cedar Grove Banding Station in Ozaukee County.

American Goldfinch—The high count was 2,567 on 6 November at the Forest Beach Migratory Preserve in Ozaukee County (Schaefer) followed by 500 on 26 September at the Evansville SWA in Rock County (Perlberg). In the period 20 September through 30 October, the Evansville SWA had consistent reports of 150 to 500 individuals. In the history of the fall season, the 2,567 individuals at Forest Beach is surpassed only by 3,330 recorded on 2 October 2000 at Concordia University in Ozaukee County (Bill Cowart) and 23,000 on 10 November 1971 at the Cedar Grove Banding Station at Cedar Grove in Sheboygan County.

European Goldfinch—In the summer of 2015 there were a number of confirmed breeding reports for the Atlas Project in the counties of Kenosha and Racine. For the fall season there continued to be reports of this escapee in Kenosha and Racine with all counts being of one or two birds.

Evening Grosbeak—In the summer of 2015 there were confirmed breeding reports for the Atlas Project from the counties of Door, Florence, Forest, and Marinette. Early fall season reports came from the counties of Florence, Marinette, and Vilas. There were fall reports from eight counties, which compares to 10 in 2014. All eight counties were confined to the far northern reaches of the state. The high count was 24 on 21 September at Alvin in Forest County (Bridge and

Prestby) followed by 20 on 31 October at Alvin (Vokoun).

House Sparrow—There were no fall reports from the northern counties of Bayfield, Iron, Langlade, Lincoln, Price, Rusk, and Vilas. All of the high counts came from McKay in Grant County. His best totals were 649 on 22 September, 386 on 5 October, and 345 on 24 September. Outside of Grant County the high was 100 on 29 November in Calumet County (Tony Nowak). One must go back to 22 September 1984 when Edwin Cleary reported 1,500 such sparrows in Brown County to find a total better than 649.

Eurasian Tree Sparrow*—Documented for 16 November at Oak Creek in Milwaukee County by Ryan Glasford. This is the 15th state record. The first record was set on March 29, 1966 in Waukesha County by Donald Beimborn. This species is becoming more regular in Wisconsin and more records should be expected in the near future. Of the 15 state records, 10 have come in the last six years with multiple reports in 2013 (three), 2014 (two), and 2015 (three).

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Greg Hottman caught this Merlin perched in Dane County in mid-October 2015.

Ben Marn created this portrait of several extinct Passenger Pigeons.

"By the Wayside"—Fall 2015

These reports of rare species include Pacific Loon, Harlequin Duck, Tricolored Heron, California Gull, Snowy Owl, Ash-throated Flycatcher and Eurasian Tree Sparrow.

("By the Wayside" is intended to show selected documentation that successfully won acceptance from the WSO Records Committee. These reports are presented without editing, as submitted by the authors.)

Pacific Loon
2 November 2015, Douglas County

The loon was in basic plumage and was seen flying over the road as we were driving. We went to the beach and found the loon on the water. It was a medium sized loon with a moderate sized straight bill, held horizontal. It was dark on the back with white throat, cheeks, neck and breast and a dark chin strap. It was smaller than the Common Loons that were in the area but not close for a direct comparison.

Similar Species: It was not a Red-throated Loon because its bill was straight and held horizontally and in flight its wing beats were slower than and not as deep as RTLO. Also the head did not droop in flight. It was not an Arctic Loon because it did not show white along the flanks while resting on the water. Its head was rounder and its bill much smaller than a Common Loon.—Jan and Larry Kraemer, Duluth, Minnesota

Harlequin Duck
20 August 2015, Bender Park in Oak Creek, Milwaukee County

Small, dark-plumaged ducks with dark, stubby bill (less than half head length), thick neck, rounded crown. Circular white patch on each side of the head and white patch in front of the eye. Tolerance for turbulent water and combination of diving and dabbling foraging strategies consistent with Harlequin behavior.—John Reddig, Greenfield, Milwaukee County

Tricolored Heron
4 September 2015, Winnebago County

Description: Small heron flying with head tucked into chest and long feet/legs trailing. Very buoyant easy flight. Very dark upper wings, head, neck, and breast contrasting with pure white belly to under tail coverts and white under wing coverts. Bill and legs lighter uniform color, not dark. Bill very long and rather thin.

Similar Species: Half the size of a

Great Blue, no grey on belly to under tail coverts, and no white on neck or head. No grey under wing coverts. About the size of a Little Blue. Bill longer and light colored compared to stubby two toned of Little Blue.——Tom Ziebell, Oshkosh, Winnebago County

California Gull
18 September 2015, Wisconsin Point, Douglas County

In size, this bird was only slightly larger than the Ring-billed Gulls when seen at long distance, but the size difference was more apparent at close range when the bird was side-by-side with the Ring-billed Gulls. It was overall darker and more uniformly colored than all the other gulls in its age class (first winter). The brownish head, mottled with some white, did not appreciably contrast with the body plumage; this made it easy to pick out among the Ring-billed Gulls. The neck and nape were streaked with brown and white. The underparts were almost entirely dark brown, but the foreneck and upper breast were mottled with white. The mantle was an unmottled grayish brown, the greater coverts dark and nearly black, and the other coverts were brown but more checkered with white. The tertials were black and slightly frayed, but some of them retained white tips. The primaries were solid black and extended far beyond the tail. The undertail coverts were barred brown on white. When the bird flew, the uppertail could be seen, and it was solid black behind the dark-checkered rump. The upperwing revealed that the black primaries continued without interruption to the black secondaries. Unlike Herring and Ring-billed Gulls, there was no white inner primary panel. As for bare parts, the bill was noticeably longer than the Ring-billed Gull's bills when seen at close range, and was straight, parallel-edged, and only slightly swollen at the gonys. The bi-colored bill was remarkable with the proximate pink contrasting sharply and evenly with the distal black. The eye was dark brown, and the legs were quite pale, almost gray, and hinted at the yellow that will come later.—Thomas Wood, Menomonee Falls, Waukesha County

Snowy Owl
Neshkoro, Marquette County

Driving in vehicle observed a Snowy Owl (mostly/all white feathers, round owl shaped head and face, bright yellow eyes and larger body approximately 1 1/2 to 2 feet tall) which thought was injured on the side of the road in grass. Stopped vehicle and observed Snowy Owl eating. My father has seen many in this area in late winter and is familiar with them and was with me at the time. It was my first sighting of a Snowy Owl so close.—Kathleen Kirsch, Neshkoro, Marquette County

Ash-throated Flycatcher
7 November 2015, Harrington Beach SP, Ozaukee County

Two to three outer primaries were always visible on the folded wing, and the underside of the tail was rufous, so this bird was quickly identified as belonging to the genus Myiarchus. The bird's crown was brown with just a few short streaks, the face was gray, and the throat was white. The nape was gray and the mantle was an olive-brown. The

back and uppersurface of the tail were plain brown. When the bird spread its tail, rufous coloration was quite striking, indicating that the inner webs of the retrices were rufous. The bird perched high enough to see the undertail just briefly, and I was unable to ascertain if the brown terminal band on the undertail was complete or broken, so I cannot state the age of this bird. The breast was pale gray and the belly and undertail coverts were pale yellow. I noticed that there were two dull wing bars and that the secondaries were thinly edged in white. The bill was straight and black. At certain angles it seemed that there might be some dark red coloration on the base of the lower mandible, but this was not easily discerned.

Similar Species: I eliminated Dusky-capped flycatcher by the gray face and the bright rufous seen on the spread uppertail. La Sagra's Flycatcher was eliminated by the large amount of rufous on the tail. Brown-crested and Great Crested Flycatchers were eliminated by the very pale (white) throat which contrasted with the pale gray breast. Great Crested Flycatcher would normally have a much brighter yellow belly and undertail coverts. The flight feathers would be darker than the pale brown wing coverts and flight feathers seen on this bird. Paleness at the base of the bill on a Great-crested Flycatcher should be easily seen.—Thomas Wood, Menomonee Falls, Waukesha County

Eurasian Tree Sparrow
16 November 2015, Oak Creek, Milwaukee County

In a mixed flock of sparrows (Am. tree, song, white-crowned, and white-throated). Smaller than other sparrow species and closest in size to the Am tree sparrows, but still slightly smaller. Dark spot on cheek, rusty crown all the way to the top of the beak, pale rusty/yellowish flanks, with black on the throat but not black on the throat and chest like a house sparrow. Similar Species: House sparrow has black neck and bid and no spot on cheek. This bird had a black throat but not a black bib with a spot on a check.—Ryan Glasford, Oak Creek, Milwaukee County

This mid-October 2015 American Golden Plover paced a mudflat in Columbia County for Jeff Galligan.

WSO Records Committee Report: Fall 2015

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The WSO Records Committee reviewed 78 records of 36 species for the Fall 2015 season, accepting 57 of them (73%). The highlights include a third state record of Common Ground Dove, two Anna's Hummingbirds, and three Scissors-tailed Flycatchers.

Accepted Records

Table 1 provides a list of records accepted by the WSO Records Committee during the Fall 2015 season. Information on each record, such as species, location, observer(s), and date(s), is accompanied by the tally of votes made by the five-person committee. Records with one or fewer dissenting votes are accepted into the state records.

Records Not Accepted

In the header for each record, voting tallies are shown in parentheses. Votes to accept are listed first. Two or more dissenting votes from the five-person committee results in a Record Not Accepted.

Black-headed Gull—
North Point, Sheboygan County, 11 November 2015 (3-2).

The observer was watching a large group of Bonaparte's Gulls along the lake front. In the flock was noted "one that had darkish underwings". Further observations of the bird revealed "a spot behind the eyes, a red bill, larger than the Boni's and not black, gray mantle with white wedge on the wings."

The committee members would like to see more detail describing the bird, specifically the underwing pattern was not given enough detail. No discussion on primary color or details on body structure. Bonaparte's Gulls are highly variable and this report did not satisfactorily eliminate them as a possibility.

Scissor-tailed Flycatcher—
Anderson Sod Farm, Winnebago County, 05 September 2015 (3-2).

The report is of a bird seen the day after two Western Kingbirds were reported at the same location. The observer noted on the bird that they "saw a light gray head but quickly realized that it was not a WEKI but a juvenile Scissor-tailed Flycatcher! The bird was slightly larger than a WEKI but superfi-

Table 1. Reports accepted by the Records Committee for Fall 2015.

Species	Date	Observer	Location	County	Notes	Vote
Anna's Hummingbird	11/15	Cynthia Bridge	Waterloo	Jefferson	Photo	5 - 0
Anna's Hummingbird	11/15	Daryl Tessen	Waterloo	Jefferson		5 - 0
Anna's Hummingbird	11/16	Ted Keyel	Waterloo	Jefferson	Photo	5 - 0
Anna's Hummingbird	11/16	Jym Mooney	Waterloo	Jefferson	Photo	5 - 0
Anna's Hummingbird	11/16	Thomas Wood	Waterloo	Jefferson		5 - 0
Anna's Hummingbird	11/18	Terry Leasa	Fond du Lac	Fond du Lac	Photo	5 - 0
Anna's Hummingbird	11/18	Kerry Sehloff	Fond du Lac	Fond du Lac	Photo	5 - 0
Ash-throated Flycatcher	11/7	Thomas Wood	Harrington Beach State Park	Ozaukee		5 - 0
Black-legged Kittiwake	11/25	Stuart Malcolm	Green Bay	Brown	Photo	5 - 0
Black-legged Kittiwake	11/18	Daryl Tessen	Harrington Beach State Park	Ozaukee		4 - 1
Black Scoter	9/6	Keith Nemec	Ashland	Ashland	Early	5 - 0
Black Vulture	9/28	Benjamin Baldwin	Bayfield	Bayfield		4 - 1
California Gull	9/18	Thomas Wood	Superior	Douglas		5 - 0
Common Ground Dove	10/7	Kristin Wegner	Rock Island State Park	Door	Photo	5 - 0
Common Ground Dove	10/7	Melody Walsh	Rock Island State Park	Door	Photo	5 - 0
Eurasian Tree Sparrow	11/16	Ryan Glasford	Oak Creek	Milwaukee		5 - 0
Harlequin Duck	8/20	John Reddig	Oak Creek	Milwaukee	Early	5 - 0
jaeger species	9/6	Marilyn Pendergrass	Crex Meadows	Burnett	Photo	4 - 1
Lewis's Woodpecker	9/29	Zaila Anderson	Galesville	Trempealeau		5 - 0
Lewis's Woodpecker	11/24	Dan Belter	Galesville	Trempealeau	Photo	5 - 0
Lewis's Woodpecker	11/24	Tom Schultz	Galesville	Trempealeau	Photo	5 - 0
Lewis's Woodpecker	11/24	Daryl Tessen	Galesville	Trempealeau		5 - 0
Lewis's Woodpecker	11/25	Kelly Rueckheim	Galesville	Trempealeau		5 - 0
Lewis's Woodpecker	11/25	Thomas Wood	Galesville	Trempealeau		5 - 0
Northern Parula	11/25	Mike Bailey	Madison	Dane	Photo	5 - 0
Orchard Oriole	9/30	Thomas Wood	Forest Beach Migratory Preserve	Ozaukee	Late	4 - 1
Ovenbird	11/2	Mike Bailey	Madison	Dane	Late	4 - 1

Pacific Loon	11/2	Jan and Larry Kraemer	Wisconsin Point	Douglas		5 - 0
Rufous Hummingbird	8/3	Matt Herzmann	Mayville	Dodge	Photo	5 - 0
Rufous Hummingbird	8/4	Daryl Tessen	Mayville	Dodge		5 - 0
Rufous Hummingbird	8/4	Thomas Wood	Mayville	Dodge		5 - 0
Rufous Hummingbird	8/9	Jacob Collison	Mayville	Dodge	Photo	5 - 0
Rufous Hummingbird	11/1	Cynthia Bridge	Milton	Rock	Photo	5 - 0
Rufous Hummingbird	11/9	Michelene Oconnor	Stoughton	Dane		5 - 0
Rufous Hummingbird	11/10	Michael Rock	Madison	Dane	Photo	5 - 0
Sabine's Gull	9/14	Daryl Tessen	Wisconsin Point	Douglas		5 – 0
Scissor-tailed Flycatcher	7/2	Joey Reichhoff	Crex Meadows	Burnett	Photo	5 - 0
Scissor-tailed Flycatcher	10/14	Julie Woodcock	Manitowoc Industrial Park	Manitowoc	Photo	5 - 0
Scissor-tailed Flycatcher	10/16	Thomas Wood	Manitowoc Industrial Park	Manitowoc		5 - 0
Scissor-tailed Flycatcher	10/17	Mike Wanger	Manitowoc Industrial Park	Manitowoc	Photo	5 - 0
Scissor-tailed Flycatcher	10/25	Jym Mooney	Coast Guard Impoundment area	Milwaukee	Photo	5 - 0
Scissor-tailed Flycatcher	10/25	Rita Flores Wiskowski	Coast Guard Impoundment area	Milwaukee	Photo	5 - 0
Snowy Owl	9/18	Kathleen Kirsch	Neshkoro	Marquette	Early	5 - 0
Summer Tanager	11/15	Katie Green	Green Bay	Brown	Photo	5 - 0
Tennessee Warbler	11/13	Mike Wanger	Community Gardens Milwaukee	Milwaukee	Late	5 - 0
Tricolored Heron	9/4	Tom Zeibell	Uihlein Waterfowl Production Area	Winnebago		5 - 0
Western Kingbird	9/4	Stuart Malcolm	Anderson Sod Farm	Winnebago	Photo	5 - 0
Western Kingbird	9/4	Daryl Tessen	Anderson Sod Farm	Winnebago		5 - 0
Western Kingbird	10/9	Thomas Wood	Milwaukee Community Gardens	Milwaukee		5 - 0
Western Kingbird	10/10	Steven Lubahn	Milwaukee Community Gardens	Milwaukee		5 - 0
Western Kingbird	10/10	Rita Flores Wiskowski	Milwaukee Community Gardens	Milwaukee	Photo	4 - 1
Western Kingbird	10/11	Spencer Stehno	Milwaukee Community Gardens	Milwaukee		4 - 1
Western Kingbird	10/14	Jim Edlhuber	Milwaukee Community Gardens	Milwaukee	Photo	5 - 0
Western Kingbird	10/14	Jym Mooney	Milwaukee Community Gardens	Milwaukee	Photo	5 - 0
Western Kingbird	10/14	Mike Wanger	Milwaukee Community Gardens	Milwaukee	Photo	5 - 0
Western Kingbird	11/4	Thomas Wood	Warnimont County Park	Milwaukee		5 - 0
Western Kingbird	11/4	Jym Mooney	Warnimont County Park	Milwaukee	Photo	5 - 0

cially similar being a bulky Flycatcher with a pale grey head and back and dark wings. This bird was even paler on the head and face with the black line from the eye to the bill being prominent. The underside was white with a slight peachy wash visible on the flanks. The tail was relatively long and all black with white outer tail feathers."

The observer also provided video of this bird in a very distant tree. The committee feels the description, video, distance to the bird, and lighting conditions does not completely eliminate the possibility of this being a Western Kingbird.

Scissor-tailed Flycatcher—
Anderson Sod Farm, Winnebago County, 05 September 2015 (3-2).

Another report from the same time and location as the previous report. This observer noted the bird "looked like a young one with gray head & back, dark wings and tail. The belly was light pinkish. The tail was not as long as an adult's would be."

Same response as above. The conditions and documentation do not adequately eliminate Western Kingbird.

Yellow-crowned Night-Heron—
Horicon Marsh, Dodge County, 18 June 2015 (3-2).

The observer "noticed an immature heron coming in from the south—way south! I immediately thought im. Black-cr. Night but as it continued to fly toward me I realized some things were not right—darker bill, gray upper parts with less distinct white spots and the feet extended well beyond the tail."

Not enough detail provided to eliminate immature Black-crowned Night-Heron in a location they are plentiful.

California Gull—
Wisconsin Point, Douglas County, 17 September 2015 (2-3).

An immature bird was noted on the beach in a flock of Ring-billed Gulls. "It was slightly larger and darker. The bill was 2 toned, legs pinkish. In flight above the beach it showed a double dark bar on the inner half of the wings."

Not enough detail provided in the report to eliminate other immature gulls. Would like to see more detail description of the wing pattern and bill size.

Western Kingbird—
Community Gardens, Milwaukee County, 15 October 2015 (1-4).

The report gives a very brief description of the bird, "Size and shape reminiscent of an Eastern Kingbird. Gray chest meeting yellow belly."

While this is very likely the bird correctly identified by others, this report is not detailed enough to identify the bird to species. There are multiple birds in the flycatcher family with yellow bellies.

Black-legged Kittiwake—
Harrington Beach, Ozaukee County, 07 November 2015 (1-4).

This report is of a "very distant bird! Flying out toward the horizon". "The blackish M on the wings could be barely seen. Other ID points were harder to see due to the distance."

The committee feels this report lacks the necessary detail to clinch the identification. Juvenile Bonaparte's Gulls can look similar to kittiwakes.

Little Blue Heron—
Horicon Marsh, Dodge County, 03 August 2015 (1-4).

A brief report of "This was an immature: medium sized white heron, 2 tone bill, yellowish, not dark legs; white body."

The report is too short to eliminate other possible herons/egrets. No mention is made of bill color, no size comparison, and Little Blue Heron should have noticeable dark wing tips.

Prairie Falcon—
Horicon Marsh, Dodge County, 12 September 2015 (1-4).

The report notes two birds flying in circles and that "Both birds were brown falcons with obvious black axials." The report also state that "the dark wingpits were obvious." The observer also indicated that they did not note any facial markings at the time of the sighting.

The report fails to describe the birds well enough to even identify them as falcons. More than one field mark is expected to be noted to differentiate between the different types of falcons.

Ruby-throated Hummingbird—
St Francis, Milwaukee County, 26 November 2015 (1-4).

The very brief report notes that the bird was banded and the bander "showed it to be a hatch year male with a couple of tiny red feathers on the gorget".

No other description of the bird was provided. No attempt to eliminate other late fall hummingbirds was made. Greater detail is required for any record to be accepted by the committee.

Western Kingbird—
Community Gardens, Milwaukee County, 14 October 2015 (1-4).

The brief description given of "a medium sized bird with yellow belly & white under tail overall gray upper, black bill & what looked like white on wing edges".

Another report of what is probably the correct species, but this individual report fails to provide enough detail to identify the bird to species.

Black-headed Grosbeak—
Woodland Dunes, Manitowoc County, 15 August 2015 (0-5).

The report of two birds coming to feeders including a photo of one of the birds. The photos show an immature grosbeak but do not show the specific field marks that would point to a Black-headed Grosbeak, nor do they eliminate the possibility of the birds being Rose-breasted Grosbeaks.

Bullock's Oriole—
St Anna, Fond Du Lac County, 04 November 2015 (0-5).

The report is of a "singing male, approx 7 in in length, smaller and more slender than AMROs perched in same tree. Very pointed bill as in other small size icterids; when it took flight it flew within 10 meters of me at which time I could see oriole profile and size/shape. Bird did not appear here until approx 4:35 pm, at which time impending darkness did not allow a clear view of colors of plumage. Bird did sing 5 times".

This report seems to identify the bird as an oriole, but actually gives very little description of the bird or field marks. The identification is made mostly by call, but no description of that call was provided. Not enough detail provided to identify this bird to species.

Great Gray Owl—
Milwaukee, Milwaukee County, 26 August 2015 (0-5).

The report discusses an encounter with a bird after dark in their yard. No

description of field marks was given. The vocalizations were described as "Whoooooo, whooooo who who", which seems to match the call of a Great Horned Owl, not a Great Gray Owl.

Northern Hawk Owl—
Womewoc, Juneau County, 29 September 2015 (0-5).

The report provided no description of the bird seen several times from their house. Vocalizations were given as "dusk screeching". There is nothing in this report supporting the identification of this bird.

Parasitic Jaeger—
Milwaukee, Milwaukee County, 17 September 2015 (0-5).

The report is of a bird flying in off the lake in a rain storm at a distance of 600 yards. The description provided is "Gull-like, all dark brown bird came flying in off lake fast, direct, and low over water, with buoyant flight style. Wings were long, narrow, and pointed, more so than RBGU or HERG. Wings held bent at wrist in flight, looked like bird was really "digging in" for speed. Gulls, even when flying fast, hold their wings more flat overall. Belly was as dark brown as rest of bird, with no pale underparts. Primary flashes not detected (possibly due to distance and the rain that was falling). Bird did not appear to be bulky in overall build, and appeared smaller than HERGs. Closer to RBGU in size. Lack of pale underparts, nape, and throat indicate that this is a juvenile bird."

The committee feels that given the distance to the bird and weather conditions, identification to species would not be possible.

Pomarine Jaeger—
New Lisbon, Juneau County, 20 August 2015 (0-5).

The bird reported was the "Size of a gull larger body shape then members of Laridae long bill, white chinstrap and looks to have dark belly." The report also discussed similar species "Lighter then dark morph and darker then light morph parasitic jaeger. Longer bill, shorter tail and darker overall then long-tailed jaeger. not mottled like juvenile gulls."

Pictures of a very distance bird in flight were also provided. Committee members feel the picture provided is of a gull.

Rock Wren—
Sturgeon Bay, Door County, 28 August 2015 (0-5).

The description provided was "Long, thin, slightly down-curved bill, brown uppers w/off-white breast and smudges on upper breast that resolved to light streaking with binoculars. Pronounced white eyebrow, no wing bars, barred primary feathers while perched. Tail appeared slightly raised. . . . I did not notice banding or other distinguishing marks on the tail".

The field marks noted could be consistent with the identification, but do not adequately eliminate other possibilities. The tail banding should be conspicuous on a Rock Wren.

Western Sandpiper—
Marathon County, 27 August 2015 (0-5).

The report included several photos of a recently deceased shorebird. No discussion was provided to support the observer's identification as a Western Sandpiper. The bird appears to be a juvenile that the committee failed to come to a consensus as to species. The committee did agree the bird did not appear to be a Western Sandpiper.

About the Artists

Alyssa DeRubeis, a Minnesota native, has been spending the past year hopping from one field job to the next. She has worked in Arkansas, Iowa, South Dakota, and Wisconsin, where the work varies from wildlife (mostly bird) surveys to environmental education. She hopes to pursue a Master's Degree in wildlife conservation in the near future. Alyssa graduated from UW-Stevens Point in May 2013 with Bachelor's Degrees in Wildlife Ecology and Biology. She has been birding since 1996 as a five-year old and started snapping photos in 2011. The natural world never ceases to amaze her, whether it's a bird, a bug, or simply a nice vista.

David Franzen and his wife, June, have lived in Phelps, Wisconsin since 1969. He worked for 34 years in the woods of northern Wisconsin, retired from the U.S. Forest Service in 2001 and from a private forestry consulting business in 2004. After retirement he took up bird photography with most of his work being shot within 100 yards of his house. His primary interest is in photographing bird behavior. He does not use blinds, but quietly waits in a chair for a bird to strike an interesting pose within close range. During 34 years of forestry work, he captured with the mind, many images that far surpass what he has captured with the camera. The most beautiful nature scene he ever viewed was encountered while trout fishing a small stream surrounded by maple forest that had sparse understory prior to spring leaf emergence. On that misty morning, a huge timber wolf glided over a hill across the stream and came toward him to stream's edge. When a wolf moves slowly, it kind of glides effortlessly, and this big guy was more like a spirit than a real animal. A real magical moment. David does occasional slide programs for local groups.

Jeff Galligan is 48 years old and lives in Middleton, Wisconsin. He is a retention program advisor and the coordinator of a mentoring program for students of color at Madison College and recently completed his doctorate in educational leadership. He enjoys wildlife photography (especially birds), reading, cooking, traveling, kayaking, and hiking.

Greg Hottman is an amateur wildlife photographer from Oregon, Wisconsin. Greg started out taking pictures of birds, mostly warblers, to help with identification. As a youngster in the 60s he can remember seeing flashes of red going through the yard in his hometown of Cross Plains and running inside to the Encyclopedia Britannia to see what bird that might have been. He inherited that "those cows ain't gonna milk themselves" gene so he gets up early, gets most of his work done by 6am which frees him up for the rest of

the day. Greg's favorite birds to photograph are owls. The neighborhood foxes are fun too.

Dave Lund is an amateur photographer who lives near Eau Claire. Following his retirement as a Mathematics Professor at UW-Eau Claire in 2000, he and his wife, Judy, now include birding and photography as part of all of their travels. Although many of his pictures are taken in Wisconsin, wintering in the southern US has provided many additional opportunities birding photography experiences. He has recently begun making presentations on birds and birding.

Benjamin Marn lives in Brookfield, WI. He is sixteen years old and will be a senior in high school this fall. He has been interested in birds and bird watching since he was in first grade. He also likes to sketch and photograph birds. He was inspired to paint the picture in this issue after reading *A Feathered River Across the Sky* by Joel Greenberg and attending the rededication of the passenger pigeon monument at the WSO annual convention in 2014.

Jym Mooney has been an enthusiastic birder for almost 30 years. In 2012 he took up photography, initially as a means to document unusual sightings. He is grateful for the advice and suggestions of the many wildlife photographers he has had the pleasure to meet and talk with as he has birded across Milwaukee County and Wisconsin; in particular Jim Edlhuber, Brian Hansen, Paul Sparks, Jeremy Meyer, Rita Flores Wiskowski, Jennifer Ambrose, and Dave Freriks.

Eric Preston is an amateur nature photographer who travels the Midwest, and beyond, to photograph the natural world. He especially likes looking for and photographing birds and butterflies in the native grasslands of southern Wisconsin. His photographs have appeared in numerous books and magazines, including *Birder's World* and *Gulls of the Americas*. He has been interested in birds and nature for most of his life. He currently lives in Madison, Wisconsin with his wife, Kim, and son, Anders.

Kerry Sehloff is a part-time birder and photographer when she is not cataloging books for the University of Wisconsin Colleges. She and her husband, Dave, have been watching, feeding and photographing birds since their college days back in the 70s, when films, negatives and slides were the order of the day. She says the switch to digital photography and access to the internet have been exciting, making it easier to record and share images of birds from all around the state of Wisconsin. Kerry has called the hills of Saint Peter in northeast Fond du Lac County her home for the past 30 years, where the yard bird life list stands at 120 species. Her statewide birding took a back seat to raising two boys, but the nest has been empty for a while and traveling to locate and digitally capture different avian species is becoming more commonplace.

Jim Stewart is the son of an upstate New York salt miner and an elementary school teacher. He arrived in Wisconsin 36 years ago and fell in love with the state's natural areas. For all of those many years he has felt, along with Jean Henri Fabre and Wisconsin's Aldo Leopold, that beauty and perception "grow at home as well as abroad." Now, with the luxury (and shortness) of time that comes with age he is able to play, camera in hand, in the natural areas that dot Dane and surrounding counties—jewels that provide sustenance to diverse wildlife. His interest is to use his photography as a means to better see by asking, over and over, two questions posed by Rachel Carson in her remarkable book *The Sense of Wonder* (1956/1998): "For most of us, knowledge of our world comes largely through sight, yet we look about with such unseeing eyes that we are partially blind. One way to open your eyes to the unnoticed beauty is to ask yourself. What if I had never seen this before? What if I knew I would never see it again?"

Rita Flores Wiskowski is a birder/photographer from South Milwaukee. Interested in birds and nature from a young age, she became a serious birder in 2008, inspired by a family of Great Horned Owls nesting in her neighborhood. Shortly after, she discovered the wonderful network of birders in Wisconsin who are willing to share knowledge, sightings, and adventures, and she was hooked. These days, when she is not working her day job as a fundraising professional, she can be found birding, with a pair of binoculars in one hand, and her camera attached to a monopod in the other. Besides birding and photography, her passions include environmental advocacy and education. She serves on the boards of Lakeshore State Park, Friends of the Mill Pond & Oak Creek Watercourse, and Wisconsin Metro Audubon Society.

Jim Stewart captured this Turkey Vulture in flight in Dane County in early November 2015.

Early September 2015 brought this Great Horned Owl into the viewfinder of Greg Hottman in Dane County.

Guidelines for Authors and Artists

Authors

The Passenger Pigeon, issued quarterly by the Wisconsin Society for Ornithology (WSO), publishes articles on Wisconsin birds, on ornithological topics of interest to WSO members, and on WSO activities and business. Anyone with a serious interest in Wisconsin birdlife – whether a professional ornithologist or an amateur birder – is encouraged to submit articles and observations to this journal. The Editors are happy to discuss ideas for articles with potential authors.

Readers are encouraged to submit articles to be considered for publication in *The Passenger Pigeon*. It should be noted that all research articles will be submitted for peer review. Articles not presenting research will go through the traditional editorial process. The editors will do as much as possible to see that work is published, including offering suggestions for improvement when pertinent.

General articles should be sent via email to PassengerPigeon@WSOBirds.org and research-based articles should be sent directly to the Peer Review Editor, Matt Hayes at research@wsobirds.org. If necessary, articles may be sent by surface mail to: Passenger Pigeon, 5018 Odana Rd, Madison, WI 53711.

Following are specific guidelines for submission:

- The article should have not been previously published in a different journal.
- The text must be in Word format (.doc or .docx), either Word for Windows or Word for Mac.
- The manuscript should be double-spaced throughout (including figure and table captions) and use 12-point Times New Roman or Calibri font style.
- The text must be on pages separate from figures and tables.
- On the title page, provide the article title, name, address, telephone number, and email address of all authors of the article.
- Include the acknowledgments, literature cited, and a brief biographical sketch of each author at the end of the manuscript.
- Research articles should generally follow standard scientific format, with separate sections for abstract, introduction, methods, results, discussion, conclusions, and bibliography. Deviations from this format (e.g., combined results and discussion section) will be considered on an individual manuscript basis.
- The spelling of common and scientific bird names should follow the most recent edition of the Checklist of North American Birds (see http://checklist.aou.org), published by the American Ornithologists' Union (AOU), or the most recent updates to the checklist.
- When appropriate, lists of species in tables or text should follow the most current AOU taxonomic sequence.
- Use capital letters for the full com-

mon names of birds (e.g., American Robin, Red-headed Woodpecker).

Guidelines for submitting figures and tables:

- Each figure and each table must be on a separate page.
- Captions for all figures should be sent as a separate text file, not embedded with the figure.
- Figures and tables should be submitted in a way suitable for black-and-white reproduction.
- Tables are to be created as 'typists' tables.' This involves creating a tabular version of your table in Microsoft Word without using the actual "Table" function in that program. Instead, use tabs to separate your columns and a carriage return to separate rows—do not add spaces to make columns line up. Alternatively, tables may be submitted as Microsoft Excel spreadsheets.

Guidelines for citing literature in text:

Citations should be listed chronologically in parentheses:

- No comma between author(s) and date: (McGhee 1995)
- Use "and" between two authors: (Li and Aschenbrenner 2007)
- If more than two authors, use "et al.:" (Moreau et al. 2015)
- Personal communication or reference to unpublished data: Cite the person's initials and surname, institutional affiliation, followed by "pers. comm." or ."unpub. data." Example: (E. Ramirez, University of Wisconsin-Madison, unpub. data).
- Works by the same author(s) in the same year are arranged alphabetically by article title and differentiated by letter (1998a, 1998b).

Guidelines for formatting references in bibliography section:

References at end of document should be listed alphabetically by last name of first author, then in increasing chronological order. Follow the models below for citing books, book chapters, journal articles, etc.

Sample References:

Reller, A.W. 1972. Aspects of behavioral ecology of Red-headed and Red-bellied woodpeckers. *American Midland Naturalist* 88(2): 270–290.

Bajema, R.A. and S.L. Lima. 2001. Landscape-level Analyses of Henslow's Sparrow (Ammodramus henslowii) Abundance in Reclaimed Coal Mine Grasslands. *The American Midland Naturalist* 145(2): 288–298.

Curtis, J.T. 1959. *Vegetation of Wisconsin: An Ordination of Plant Communities.* Madison, WI: University of Wisconsin Press.

Gregg, L. 2006. Gray Jay. Pages 296–297 in N.J. Cutright, B.R. Harriman, and R.W. Howe (Eds.), *Atlas of the Breeding Birds of Wisconsin.* Waukesha: Wisconsin Society for Ornithology.

Estades, C.F. 1997. Habitat fragmentation, pine plantation forestry and the conservation of forest bird communities in central Chile. Master of Science Thesis, University of Wisconsin-Madison.

Kilvington, M., J. Rosier, R. Wilkinson and C. Freeman. 1998. Urban restoration: Social opportunities and constraints. Paper presented to the Symposium on Restoring the Health and Wealth of Ecosystems, Christ-

church, New Zealand, September 28–30.

National Audubon Society. 2014. *Christmas Bird Count Historical Results.* www.audubon.org/bird/cbc/hr/index.html [accessed September 1, 2013].

Strickland, D. and H. Ouellet. 2011. Gray Jay (*Perisoreus canadensis*). In A. Poole (Ed.), *The Birds of North America Online.* Ithaca, NY: Cornell Lab of Ornithology. http://bna.birds.cornell.edu/bna/species/040 [accessed December 31, 2015].

Artists

All photos must be submitted as jpeg digital images in e-mail attachments to Michael Huebschen, the Assistant Editor for Art, at mhuebschen4@gmail.com. They will be stored in secure digital files until recommended for a given quarterly issue of *The Passenger Pigeon.*

Although we would prefer to print all images chosen for *The Passenger Pigeon* in color, many will be printed in black & white due to the prohibitive cost of printing everything in color. One image per issue will be selected as a color cover photo. Every effort will be made to use the best photos submitted by as many contributors as possible. The Editors will make the final selections.

Following are the criteria for submitted work:

1. Jpeg digital images of photos, drawings, paintings, sculptures, wood carvings, quilts or other artistic works featuring birds seen or photographed in Wisconsin should be sent as email attachments and should be in as large a size as possible, with resolution of at least 300 d.p.i. (1.2 megabytes for black-and-white and 1.5 megabytes for color). Lower resolution simply does not print well and pixel-dense images make the best candidates for printing since they often need to be cropped. All photos of birds submitted must have been taken in Wisconsin.

2. Please note: since the seasonal reports are for the year previous to the current issue, any photographs for a given issue should also be from the same period. For example, photographs for the Winter, 2015 issue should have been taken on or between December 1, 2014 and February 28, 2015; photographs for Spring 2016 should have been taken on or between March 1, 2015 and May 31, 2015; for Summer, 2016 on or between June 1, 2105 and July 31, 2015; and for Fall 2016, on or between August 1, 2015 and November 30, 2015.

3. All images submitted must be material not previously published in *The Passenger Pigeon.*

4. All images must include the bird species name and name of the artist. Date and location are also necessary in the case of photographs. Images of works other than photographs should have a title if one has been selected.

5. The most useful images are those in "portrait" format, rather than "landscape" format. A cropped photo 4″ horizontal by 5″ vertical is ideal for consideration for a cover photo. The "fill page" images are also best done in portrait format and might run as large as 4.75″ × 7″. The editors may do some additional cropping of images for publication.

6. Since no images will be returned, the submission must be high-resolution copy of the original. In most cases contributors will have cropped the images for the best effect. Cropping the images too tightly should be avoided since the

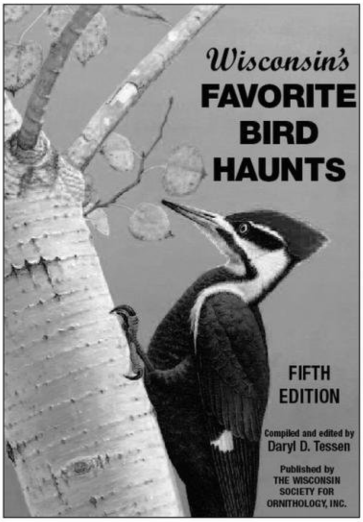
editors may choose to do more cropping. All unused or unusable digital images will be destroyed after the issue goes to press.

7. It is the policy of Wisconsin Society for Ornithology not to offer monetary compensation to contributing artists for use of their images in *The Passenger Pigeon*. The Society is grateful for those who have contributed limited use of their images for publication in *The Passenger Pigeon* in the past and to those who will do so in the future.

8. When images have been selected and approved for each quarterly issue, a short biography from each contributing artist will be requested. It is tradition to publish those in the "About the Artists" pages of each issue.

Eric Preston found this Northern Harrier overlooking a grassy habitat in Iowa County in mid-September 2015.

David Franzen spotted this Black-capped Chickadee at a hollow in a tree in mid-November 2015 in Vilas County.



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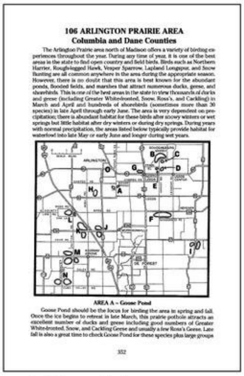

145 articles cover some 1,100 areas and include detailed maps.

Designed for durability and functionality, this book is printed on heavy coated paper and has a spiral binding so it lies flat when open. 6" by 9", 556 pages. ISBN: 978-0-9774986-3-5.

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

Visit the WSO website, www.wsobirds.org, for an order form that includes price and ordering information, or contact the Bookstore Manager (see contact information on Inside Back Cover).

Federal Duck Stamps = Big Win for Conservation

Ruddy Duck – image from the 2015-2016 federal Duck Stamp

Officially the Migratory Bird Hunting and Conservation Stamp, the federal Duck Stamp provides revenue to help acquire and protect wetlands within the National Wildlife Refuge System. Sales have raised more than $800 million since the program began in 1934, and they have helped acquire and protect more than six million acres of irreplaceable bird-friendly habitat.

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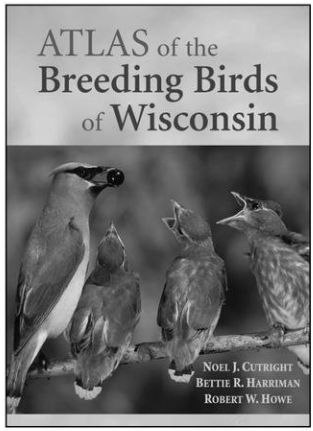

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Hardcover, large format (9" x 11.25"), 624 pages. Copyright 2006. ISBN: 978-0-9774986-0-4.

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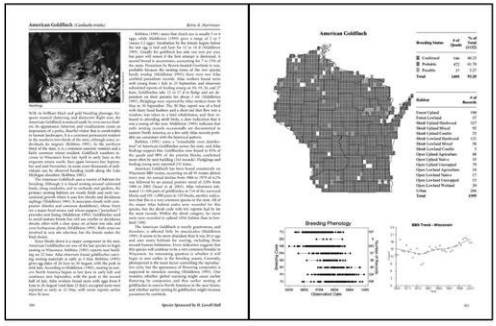

The two-page species accounts – 214 of them in all – provide a host of information on the state's breeding species, including their range, habitat preference, breeding biology, conservation concerns, and population trends. An additional 23 less-common species also are covered. Also included are chapters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

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

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