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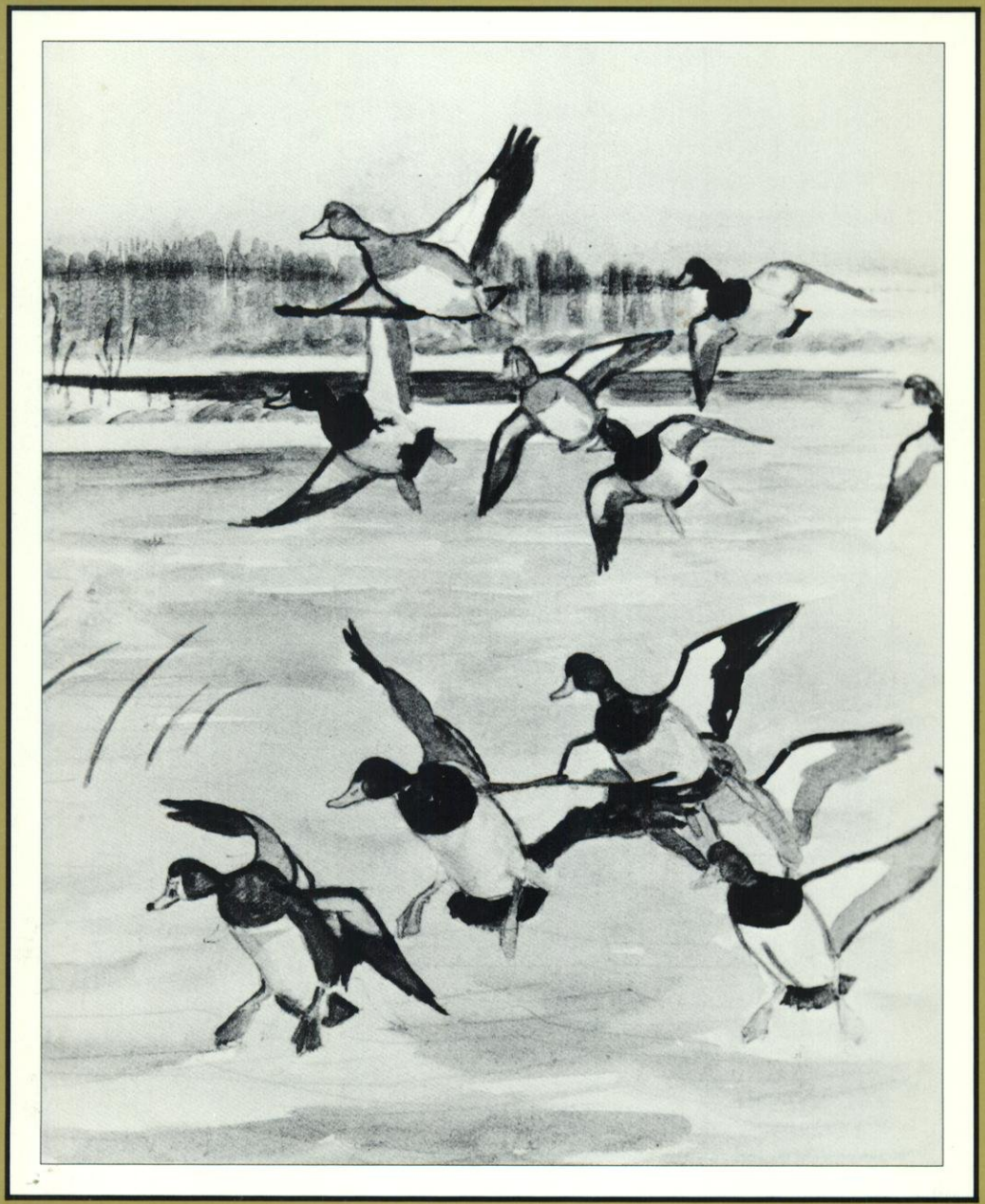

1939 – 50th ANNIVERSARY – 1989

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

Our Land Management Responsibilities

Every person that has held the office of President for our organization has left their mark. Those marks reflect each President's background, interests and strengths. As the Presidency has been filled successively by individuals with different personal traits, a diverse range of accomplishments has characterized the course of our organization over the years.

My turn has come, and my strengths are those of a land manager. I believe it is incumbent on me to use my strengths to resolve as many of our land management problems as possible. This will allow our next President, Al Shea, to use his strengths on other problems.

Within this and subsequent issues of *The Passenger Pigeon* there will be several articles about our Honey Creek property. Readers will be exposed to such varied topics as the history of Honey Creek's establishment, the history of birdbanding there, the plants and animals of Honey Creek, the birds of specific habitats, early ornithologists in the Baraboo Hills, and a management plan for our property.

It is the last item which I will address in the rest of this message. Why do we need a management plan anyway? It is all a matter of stewardship. Everyone who owns land has a responsibility to be a steward for their property. Whether that responsibility is taken seriously or lightly is up to the steward. It is the norm in western society to manage one's own affairs upon reaching adulthood. Whether it's a small apartment or a large estate, it is expected that the owner will manage the affairs of the property in some form or another. The amount of time spent and the direction of those affairs will depend on the ethical fiber of the steward.

We have a special set of circumstances in the stewardship of the Honey Creek property. First of all, it has nothing to do with whether individual members of WSO like the property or not. I have not spent a lot of time on management issues at Honey Creek because it is my favorite place; it's not. I don't dislike Honey Creek, but I do have many other favorite locations. This is probably true of many other WSO members, as well. Nonetheless, the unique circumstances are that the property is owned by an organization, not an individual.

The stewardship of Honey Creek should reflect as close as possible the character of our organization. That means it should be devoted to research, conservation, and education dealing with Wisconsin birds. Also—and probably more importantly—our property contains two state-threatened bird species, the Acadian Flycatcher and Cerulean Warbler, and a federally-threatened plant species, the bog bluegrass. We know these species live on our land. It only seems right to me that we ensure they will always have the conditions needed for their survival on our land. How tragic it would be to someday have someone say, "They knew those species were there and did nothing, now they're gone."

I don't think that will happen. We have had a long history of managing our land and a strong sense of volunteerism among members. Special thanks should go to Harold Kruse and Gordon Cox for managing our land so ably over the years. They have put in countless hours of time into property upkeep, they kept good relations with our neighbors, and they have been Honey Creek advocates.

Our current management plan does nothing to discredit their efforts; in fact, their past activities are the basis of the plan. Additional activities are in the areas of rare species conservation and a greater educational emphasis.

Please read and become familiar with our management plan for Honey Creek. This plan is not an end product, it can change and evolve. It does have a major short coming. It only addresses the present. It has no future vision or goal. Nor does it have any strategies for reaching any future goal. The only way to address the future is through a planning process. To achieve consensus and direction, all of the membership must have the chance to provide their views. As a precursor to any future planning for WSO properties, a questionnaire will be sent to all members so you will have an opportunity to express your opinions on the future direction we will take.

Randy Hoffman

President

Honey Creek Management Plan and User Guidelines

A management plan has been prepared for our property at Honey Creek. The plan will ensure that this important natural area retains its unique characteristics while it is being used to further WSO's goals in research, conservation and education.

by Randy M. Hoffman

This article is presented to inform the WSO membership about the use and management of our Honey Creek property. Over the years there has been a great deal of confusion about the use of our property. Specific points of confusion involve the use of the Falls Trail, camping on our property, the use of the Cox Nature Center, and the location (where is the place, anyway?).

I remember my first visit to Honey Creek. I made my way to the trail, with a little help from *The Passenger Pigeon* or the *Badger Birder*—I don't remember which—and had an enjoyable walk up Honey Creek Valley. Then I tried to find the Cox Nature Center. First I drove west and found only farms. Then I drove back to County Highway PF, still no nature center. Finally, I tried Alder Lane. As I drove to the end, I saw a large farm house with all kinds of activity around it. Firmly convinced this was another farm, I left. It was nearly five years and dozens of visits later that I found the nature center. Right next to the large house that I was so convinced was a farm. I hope the guidelines, management plan and accompanying map will help clear up these types of problems, which I'm sure others have experienced.

The following guidelines for use and the management plan were developed jointly by the WSO Board of Directors and the Wisconsin Department of Natural Resources, Bureau of Endangered Resources (BER). The BER became involved in 1971, when Honey Creek was designated a State Natural Area. The Wisconsin Department of Natural Resources defines State Natural Areas as follows:

> "State natural areas are devoted to scientific research, the teaching of conservation and natural history, and especially to the preservation of their natural values for the use of future generations. They are not intended for intensive recreational uses like picnicking or camping.
>
> "High quality natural areas are identi-

fied and evaluated by program staff and the Natural Areas Preservation Council. Preservation is accomplished by designation of tracts already in public ownership through cooperative management agreements or by acquisition of privately owned tracts.

"The mission of the Council and one of the goals of the Bureau of Endangered Resources is to locate and preserve a system of state natural areas to protect example of all types of biotic communities and other significant natural features native to the state . . . for education, research, and most importantly to secure long term protection of the state's genetic diversity for the benefit of future generations. This formidable task is only accomplished through substantial assistance from a number of public agencies, private organizations and individuals."

The Honey Creek management plan is a flexible document, changes can be made, as necessary, to reflect changes in ownership, status of agreements with our neighbors, or completion of specified tasks. Completion of required actions, as set forth in the plan, will largely be a responsibility of WSO with some help coming from other organizations, such as the Youth Conservation Corp.

General Provisions of Management Plan

This management plan conforms to the DNR's general procedures for State Natural Areas. It also contains recommendations specific to the management need of Honey Creek and includes exceptions to the general procedures.

The specific management actions have been developed in consultation with the Department of Natural Resources' Natural Areas Section, recommended by the property manager, reviewed by the Natural Areas Preservation Council, and approved by the Department's District Director and Bureau of Endangered Resources. The plan will be reviewed periodically and, if necessary, amended to assure that all necessary management considerations are incorporated. Changes to the management plan may be made with the advice of the Council and written agreement of the property manager, District Director, and the Bureau of Endangered Resources.

The primary objectives of these procedures is to preserve the site in a natural condition with little human disturbance. The Department of Natural Resources' Master Plan Handbook-Standard Land-Use Classification System, will be used to identify authorized land use practices. Sections 23.27, 23.28 and 23.29, Stats., and Section NR 45.13, Wis. Administrative Code, also may apply in regulating use. The land-use classifications used include research natural area or interpretive natural area and critical species natural area. Resource development classifications may also be used, but only in that portion identified as buffer zone. The Natural Areas Handbook provides more detailed guidelines and procedures.

General Management of State Natural Areas

Removal of plants, plant parts, animals, rocks and minerals, and artifacts is generally not permitted. However, hunting, fishing, trapping, berry picking and nut gathering are permitted if not expressly restricted or otherwise prohibited by law or Articles of Dedication. Collecting for scientific purposes may be allowed by Department permit.

Cutting or removal of living or dead trees, standing or down, or other veg-

etation in forest communities, is generally limited to that essential to meet public safety requirements. Cut material will be left within the natural area. Death of trees due to blowdown, fire, flooding, insects and disease is regarded as a normal natural occurrence. The Department and the property manager may consider deviation from this procedure in the event of large scale mortality, on a case-by-case basis, with the advice of Council.

Control of plant succession with the use of fire, cutting, mowing or water level manipulation, may be employed to maintain a particular natural area type, or control of abnormal animal populations may be employed if provided for in this plan.

Introductions of exotic plant and animal species is prohibited. Reintroduction of an extirpated species, or introduction of a species of concern which is known to inhabit a particular community and edaphic condition may be permitted with the advice of the Council and consent of the Department.

Pesticides including herbicides, insecticides, fungicides and biological controls should not be used for plant or animal control. Department approval, with Council review, must be obtained for each case should an exception be necessary. Biological control agents are preferred over chemical agents.

Intensive public use in not encouraged. Any public use which damages vegetation or otherwise impairs natural conditions is discouraged and if necessary will be controlled. Recreational use such as hiking and nature appreciation, and education use which does not degrade the natural features is encouraged.

Attention-drawing signs should be limited to those areas that have a low site fragility or have established trails. Signs indicating the area's purpose and use limitations are desirable at access points. Boundaries may be marked for the convenience of the property manager, visitors, and adjacent landowner.

Vehicle traffic of all types is discouraged. Existing walking trails and service roads may be maintained and they will be identified on the management plan map. New walking trails may be constructed where use is heavy or where needed to protect sensitive vegetation; these will be identified in the management plan.

No buildings, and other improvements such as fireplaces, picnic grounds, athletic facilities, dam, beach improvements or other waterway modication devices will be constructed. Any public-use or maintenance facility essential to the natural area should be located in buffer zone or outside the natural area.

Specific Management for Honey Creek

This 310-acre site (Figure 1) features southern dry-mesic forest (230 acres), northern wet forest (10 acres), hemlock relict (10 acres), pine relict (16 acres), dry prairie (2 acres), southern sedge meadow (5 acres), alder thicket (25 acres), a slow, cold, hard water stream (2 acres), open and shaded cliffs, and a field (10 acres).

Animal species of concern are the pickerel frog (*Rana palustris*), Great Blue Heron (*Ardea herodias*), Acadian Flycatcher (*Empidonax virescens*), Eastern Bluebird (*Sialia sialis*), Yellow-throated Vireo (*Vireo flavifrons*), Cerulean Warbler (*Dendroica cerulea*), Kentucky Warbler (*Oporornis formosus*), Vesper Sparrow (*Pooecetes gramineus*), and Field Sparrow (*Spizella pusilla*). Plant species

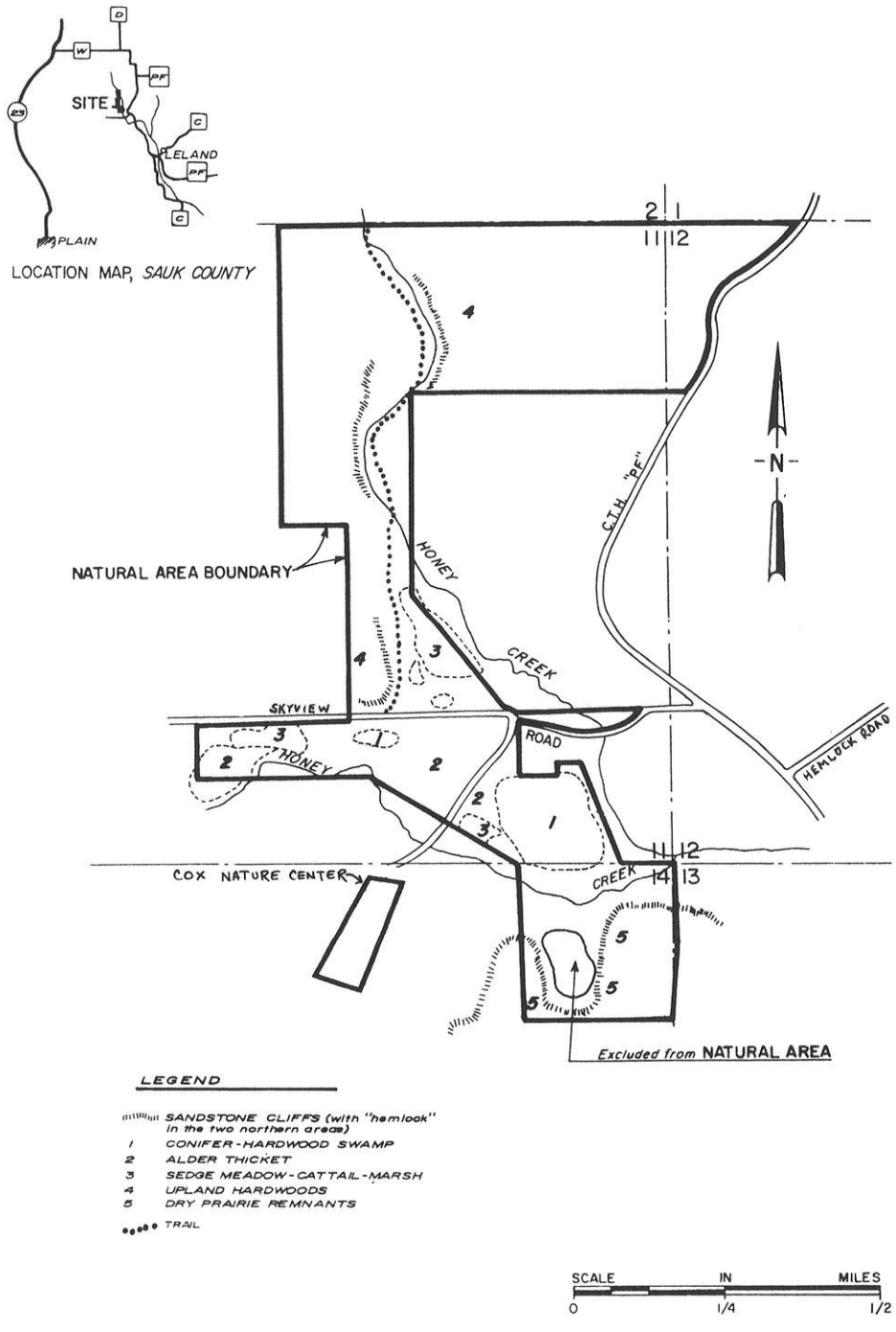

Figure 1. A map of the Honey Creek area.

of concern are bog bluegrass (*Poa paludigena*) and kidney-leaved sullivantia (*Sullivantia renifolia*). Management objectives are to preserve rare species, heterogeneous habitats, and to provide visitors with a rewarding experience while viewing the natural environment.

Management Challenges.—Several specific problems have been identified that can be solved by proper management procedures. Woody species are encroaching on the prairie areas. Facility-related problems include: boundary fences, survey markers and property boundaries lying outside current boundary fences, vandalism, trail maintenance, old structures and trash.

Management of Ecological Communities.—On the four small dry prairies, woody species that are shading out the prairie must be removed by hand. For agricultural fields, a crop agreement between the current lessee and WSO is being renegotiated. Results of the new agreement will be incorporated into the management plan. For the Southern Dry Forest, Northern Wet Forest, Hemlock Relict, Pine Relict, Southern Sedge Meadow, Alder Thicket, Open and Shaded Cliff, and Slow, Cold, Hard Water Stream, no specific management is required.

Management of Rare Species.—The largest known Wisconsin population of bog bluegrass occurs on both sides of the access road, within the alder thicket and northern wet forest. Because this plant is very sensitive and susceptible to fire and canopy disturbance, fires within the alder thicket and northern wet forest areas must be prevented. Any canopy disturbance during road maintenance operations must be eliminated or minimized by cooperative agreement with the township road maintenance crews.

For the Kidney-leaved Sullivantia and the Pickerel Frog no specific management is required. For the Great Blue Heron, Acadian Flycatcher, Eastern Bluebird, Yellow-throated Vireo, Cerulean Warbler, Kentucky Warbler, Vesper Sparrow, and Field Sparrow no specific management is required. However, through natural succession to a more mature and intact forest situation, a shift in species composition is to be expected.

Monitoring and Public Use.—Breeding Bird Censuses have been run continuously for 18 years. The Breeding Bird Censuses should continue to run annually. The population of bog bluegrass should be monitored on a regular schedule. Inspections of the area should be done once a year, and the results reported on Natural Areas Inspection Sheet Form 1700–21.

All group use for educational purposes must be coordinated through the site steward. Research use is encouraged. All trapping is prohibited. Spring turkey hunting is prohibited. Fall and winter hunting is permitted. Notice will be given to adjacent landowners by word of mouth that there is no trapping or spring hunting. If there is a problem with spring hunting or trapping, the property boundaries will be posted to restrict hunting or trapping. Trapping does not include bird-banding. All off-road vehicle use is prohibited, except when it is necessary to carry fence materials over frozen ground and emergencies.

Facility Development and Maintenance.—All boundary fences must be inspected and maintained annually. WSO

is responsible for one-half of the boundary fence. Repairs or replacement should be scheduled using volunteers or the Youth Conservation Corp. Emergency repairs should be made by the person whose cattle have escaped or by the site steward.

An informational sign should be erected and maintained along the trail. This sign should not be visible from the road. A registration box should be erected and maintained next to the nature center. A gate should be erected and maintained at the entrance of the hiking trail. This gate should be constructed in such a manner as to allow pedestrian access while permitting vehicle access for maintenance and emergency use by use lock and key. Wooden parts of old outbuildings should be removed and burned and any remaining holes should be filled. Several pieces of old farm machinery located near the cropped field should be removed. The Falls Trail should be managed as a primitive type trail. Fallen logs should be removed only when they pose a serious safety hazard. Mowing should only take place around the nature center parking lot and on "pads" for two camp sites. Survey markers located in 1974 should be relocated and marked.

Effects of Management Actions.—Protective measures should ensure continued survival of the rare plant species. Rare animal populations will gradually change as the forest fills in and matures. Facility clean up and maintenance should enhance visitor perceptions and help promote member usage.

Guidelines for Visitors

The Board of Directors of WSO encourages the use of our Honey Creek Property by members, as well as outside groups. These guidelines should aid members and group representatives who have never used this property in planning meetings and outings.

General Information.—The Cox Nature Center is normally closed from December 1 through March 31.

The Falls Trail north of Skyview Road is open throughout the year but is not groomed or plowed in the winter.

The outhouses at the south end of Alder Road south of the Cox building are open throughout the year.

Visitors are asked to observe the posted guidelines at the beginning of the Falls Trail and to be familiar with the Management Plan and its ramifications.

For hiking on the Falls Trail, no prior notification of intent to visit is necessary.

Those participating in WSO Work Weekends or scheduled field trips and campouts at Honey Creek do not have to provide any prior notification of attendance.

Cox Nature Center and Camping.—Use of the Cox Nature Center must be by prior appointment. Campers should also give prior notification.

Use of the nature center by outside groups of up to twenty people is encouraged. Arrangements should be made by appointment at least one month before the planned meeting date. Appointments can be made through Gordon Cox at 608-544-5081 (Honey Creek) or 608-752-8670 (home). Current President Randy Hoffman also has access to the Cox Nature Center.

Campers and individuals just wishing to park overnight at the camping area adjacent to the Cox Nature Center should check in at the house at the end

of Alder Road or call Gordon Cox to provide prior notification of plans.

Research.—WSO encourages use by *bona fide* researchers. A brief description of the work should be sent to the WSO President; ongoing surveys explicitly sponsored by the Department of Natural Resources are permitted without notification. Collection of all plant materials and animals, except during the fall hunting season is prohibited. Requests for research related collecting must be directed to the President of the Society well in advance of such activities.

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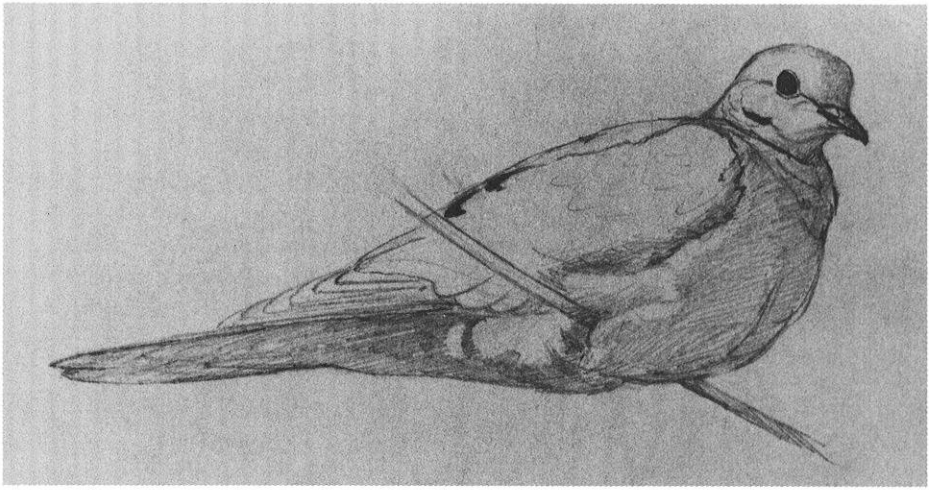

Mourning Dove *by Jonathan Wilde*

White-breasted Nuthatch *by Thomas R. Schultz*

History of the Honey Creek Natural Area

The history of WSO's involvement with the property at Honey Creek is recounted by one of the area's most influential advocates.

by Harold G. Kruse

The Honey Creek valley, also known locally as Indian Trail valley or Born's valley, first came to the attention of WSO members on a memorable June bird walk during the 1956 summer campout in Sauk County. The 2½-mile trek down this beautiful valley, carpeted with early summer ferns and wildflowers, and alive with bird song, left an indelible memory in the minds of the participants.

Several years later, when the WSO board, under the urging of president Stanley Polacheck, decided to become involved in natural areas protection by establishing a WSO bird sanctuary, the Honey Creek valley was an easy first choice for such a project. Factors considered were the scenic beauty of the valley, the broad variety of native plant communities and bird habitat, and the accessibility to a majority of WSO members. Plant communities range from open water and cattail marsh through sedge meadows, alder thicket, tamarack and hardwood swamp, lowland hardwoods rich in wildflowers, hemlock cliffs, upland hardwoods, and dry hilltop "goat prairies." Over 500 species of native plants have been identified, and over 100 species of birds have been recorded as nesting in the area at some time during the past 30 years.

Land acquisition began in 1958 with the leasing of 30 acres from William Pagel. A fund-raising drive was organized, and the tract was purchased in 1960. This was followed shortly by purchase of 65 acres of bog and marsh from Oscar Rudolph and Leslie and William Pagel. In 1962 the 40-acre sandstone cliff and upland forest south of the bog were added. This tract has been used as a vulture nesting site, and also contains the state record large-toothed aspen tree, plus interesting orchids and other wildflowers.

At this time, the former Rudolph home at Honey Creek was purchased by David and Hazel Cox, WSO members from Beloit. The old farmhouse quickly became the headquarters for WSO members and friends visiting Honey Creek, and the Coxes proved to be gracious and considerate hosts through the 60's and early 70's. They, together with Edward Peartree of Oconomowoc, established the Honey Creek bird banding station, which has been in operation for

30 years, and is the subject of another article in this report.

In the 1970's memorial funds for David and Hazel Cox were used to construct the nature center building which houses items of local natural history, and provides a meeting place for visiting birders, botanists, and hikers. The building was designed by Harold Kruse and built by W. D. Brown, with stonework by Gary Werner, Donald Kindschi, and others. It is intended to represent the Baraboo Hills, with the chimney and north stonework of quartzite, grading to conglomerate, sandstones and limestone on the south end. The fireplace is built of rocks from throughout the United States, and donated by WSO members and friends. WSO visitors to the area are welcome to use the nature center grounds for overnight camping.

In 1964, UW Emeritus Professor Dr. Harry Steenbock donated money to buy the 85-acre Meyer woods north of the WSO property. This is now known as the Steenbock Woods, and includes the second hemlock cliff and the upland hardwood forest extending eastward to Highway PF. The woods is rich in fungi with over 40 species recorded on one September walk.

Following purchase of the Steenbock Woods, the John Muir Chapter of The Sierra Club began construction of a hiking trial intended to link Honey Creek and the various Nature Conservancy reserves eastward to Devil's Lake. The long trail was later abandoned because of concern that it would bring overuse to some of the more sensitive areas, but portions of the trail are still in use, as at Honey Creek, Hemlock Draw, and Baxter's Hollow.

The 40-acre Lucht tract west of the Steenbock Woods, and the 3-acre parcel north of the bridge on Sky View Road completed the early purchases, and brought the total acreage of the Honey Creek Natural Area to 270. An important priority for addition to the preserve is the sedge meadow east of the bog and south of Sky View Road. This meadow has been found to contain an endangered plant species, bog bluegrass (*Poa paludigena*). Finally, there are the continuing efforts to keep lands in the valley north of the WSO property in the hands of private owners committed to natural areas protection. Hopefully, the entire 2½-mile long valley from the bog to the waterfall will become a protected natural area and permanent home for its varied and fascinating plant and animal life.

The first trek down the valley in 1956 was reverse in direction after the establishment of the State Natural Area, and became the annual May hike to the waterfall, an experience enjoyed by countless WSO members and friends over the past 30 years. Up to 85 species of birds have been recorded on each of these walks, including Kentucky Warbler, Mourning Warbler, Cerulean Warbler, and Prairie Warbler, Blue-gray Gnatcatcher building nests, Pileated Woodpeckers, Acadian Flycatchers, and a host of others. With the entire valley under protection, this experience can continue to be enjoyed by many in the years to come.

Harold G. Kruse
Hickory Hill Farm
Loganville, WI 53943

Thirty Years of Bird Banding at Honey Creek

Since 1959 over 33,521 birds have been captured and banded at Honey Creek. Some of the highlights are recounted here.

by Edward W. Peartree

The short history of bird banding at Honey Creek begins in 1959 with the banding of the first birds on WSO's property by the author. On that day, while Harold Kruse, David Cox and I fenced the land, I was able to trap and band a Northern Cardinal, two Gray Catbirds, and a Wood Thrush. Since that time and through 1988, 33,521 birds of 130 species and 1 hybrid (a Lawrence's Warbler) have been banded. Of these 162 were banded by Roy Lukes, 4324 by David Cox, and 29,359 by the author, with much assistance from wife, Jeannette, since 1973. An additional 300 birds have been banded during 1989.

Over the past 3 years Jeannette and I have done an annual "Bandathon" (with per-species pledges for the number of birds banded) to help defray the property taxes on the Honey Creek property. The average has been 30 species per year, with 31 species banded in 1989. Each year 1 or 2 species on the "Birdathon" list (where per-species pledges are made for birds *seen*) have only been seen because they were caught in my mist nets. These birds can really classify as "double dippers."

Species that have been banded range in size from Ruby-throated Hummingbirds to Green-backed Herons, American Redstarts to Virginia Rails, and House Wrens to American Woodcocks. All seven vireo species and 28 warbler species (plus a hybrid, the Lawrence's Warbler) have been banded. Some of the most unexpected species we have banded include Bell's Vireo, White-eyed Vireo, and Henslow's Sparrow.

The summer residents most frequently trapped and banded have been American Goldfinch, Gray Catbird, Song Sparrow, Swamp Sparrow and Common Yellowthroat. Banding has shown that the Louisiana Waterthrush, Kentucky Warbler and Veery, normally deep forest birds, spend time in shrub-carr habitat.

Some banded birds have returned to be recaptured for 3 to 6 years. An adult Louisiana Waterthrush, banded on 21 August 1981, returned to be recaptured in 1983 and 1987. An adult male Kentucky Warbler, banded on 22 June 1974, returned to be recaptured in 1975 and 1976. An adult female Veery, banded on 28 May 1977, returned to be

recaptured in 1978, 1979, 1981, and 1983.

The oldest bird recorded at Honey Creek is a male Common Yellowthroat that was banded as a bird-of-the-year on 19 August 1978. This bird returned to be recaptured in 1979, 1983, 1985 and 1988. It was last recaptured on 20 August 1988 when it was 10 years old.

Other species returning from 4 to 6 years have been Song Sparrow, Swamp Sparrow, Blue-winged Warbler, Yellow Warbler, Common Yellowthroat, Rose-breasted Grosbeak, Gray Catbird, American Goldfinch, Hairy Woodpecker, and Downy Woodpecker. An adult male Hairy Woodpecker, banded by David Cox in 1968, last returned in 1976—6 years after Mr. Cox's death. A migrant Ruby-crowned Kinglet banded on 25 April 1981 was recaptured on 29 April 1983, again while it was on spring migration.

Very few birds banded at Honey Creek have been retrapped or recovered elsewhere. A White-throated Sparrow banded by David Cox on 21 September 1968 was recaptured by a bander in Houston, Minnesota, on 28 April 1969. A Song Sparrow banded by David Cox on 25 September 1964 was found dead near Ladysmith, Wisconsin, on 1 August 1965. A migrant Tennessee Warbler banded by the author on 4 August 1973 was apparently returning by same migration route the next spring. It hit a window in Sun Prairie, Wisconsin, on 13 May 1974.

A Yellow-rumped Warbler banded by the author on 15 October 1983 was recaptured by a bander near Lansing, Michigan, on 14 May 1984.

The only banded bird captured at Honey Creek but banded elsewhere was a Dark-eyed Junco banded near Austin, Minnesota, in October 1985 and recaptured at Honey Creek on 26 April 1986.

One of the mysteries of banding at Honey Creek is that of all the hundreds of nestling and adult Eastern Bluebirds banded over the years, not one has ever returned in subsequent years to nest or be recaptured.

Edward W. Peartree
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Oconomowoc, WI 53066

Eastern Bluebird Productivity and Habitat Preference on Managed Wildlife Lands in West Central Wisconsin

Ninety-one nest boxes located in St. Croix and Polk counties, Wisconsin, were monitored from 1983–87 for use by Eastern Bluebirds, Tree Swallows, and House Wrens. Thirteen habitat variables were measured at each box to assess habitat preferences of each species. In addition, the number of fledglings produced was recorded.

by Mia Van Horn and Bruce R. Bacon

The Eastern Bluebird has been declining throughout its range since the 1950's (Zeleny 1976, Mossman 1986). This decline has been attributed to a reduction of available nesting cavities, although pesticides may have played a role (Munro and Rounds 1985). In Wisconsin, the Eastern Bluebird is on the list of "watch species", in spite of a recent population increase (Les 1979).

Bluebirds are secondary cavity nesters, hence, they depend on primary excavators and naturally formed cavities for nesting sites (Zeleny 1976). According to Pinkowski (1976), abandoned woodpecker nest cavities accounted for over three fourths of the natural bluebird nesting sites in addition to rotted tops of wooden fence posts. As farming practices changed, steel fence posts replaced wooden posts, and snags were lost as fence rows were removed (Conner 1974). As a result, woodpecker populations shifted from the open to more wooded areas where snags were still available. Since bluebirds are typically grassland species, they could not make this shift. When natural nesting cavities became scarce, nest boxes became important as supplementary or substitute nesting sites (Pinkowski 1976, Zeleny 1976). Most researchers feel that recent increases in bluebird populations are a result of nest box programs (Willner et al. 1983, Les 1979, Pinkowski 1976).

The goals of this study were to determine occupancy rates, productivity, and habitat preference of Eastern Bluebirds in nest boxes on managed lands in west central Wisconsin. Since Tree Swallows and House Wrens also used the nesting boxes, similar data were collected on these species.

Study Area

Nest boxes of either the Peterson, Olsen, Hill Lake, or Bauldry designs—see Mossman (1986) for descriptions—were distributed on 15 federal Waterfowl Production Areas, state Wildlife Management Areas, and Extensive Wildlife Habitat Units managed by the Wisconsin Department of Natural Resources in St. Croix and southern Polk counties, Wisconsin. The study area is predominantly agricultural lands with scattered woodlots and stream valleys. Most of the managed uplands are maintained in tall, dense grass and mixed forbs. Bluebird densities in this region are among the highest in Wisconsin (Kruger 1985).

Methods

Habitat Preference.—Nest box characteristics and habitat conditions surrounding nest boxes were assessed to determine bluebird preference. Thirteen variables were estimated in the survey (Table 1). Habitat measurements were taken within an estimated 30.5-m circular plot around each box within a 5-day period during the nesting season. The same observer estimated and recorded all habitat variables to reduce bias (Block et al. 1987). Only the first nesting attempt of an individual species was used to determine habitat preference (i.e., second nesting attempts by the same species in a box were not counted as additional nests in our analysis).

We compared the characteristics of used and unused boxes (Table 1) using Chi-square analysis (Steel and Torrie 1960). Habitat preference was determined by comparing characteristics of boxes used to the availability of boxes with these characteristics.

Productivity.—Nest box productivity was determined by monitoring boxes once every 7 days throughout the egg-laying and brood-rearing periods (late May–late July 1983–87). Species use was determined by presence of adults, nesting material, egg color and markings, and characteristics of the young. A nest was defined as a box containing at least

Table 1. Nest box characteristics and habitat variables evaluated in St. Croix and Polk counties, Wisconsin.

Variables	Categories recognized
Box Design	Peterson, Olsen, Hill Lake, or Bauldry
Hole Height	3–3.99 ft., 4–4.99 ft., or > 5 ft.
Predator Guard	present, or absent
Hole Diameter	1.5–2.0 in., 2.1–2.5 in., or > 2.5 in.
Box Mount	wood post, metal post, tree, stump, or utility pole
Distance to water	< 100 ft., 101–300 ft., or > 301 ft.
Distance to cover	0–15 ft., 16–30 ft., or > 31 ft.
Distance to buildings	< 100 ft., 101–300 ft., or > 301 ft.
Distance to roads	< 100 ft., 101–300 ft., or > 301 ft.
Direction entrance faces	N, NE, E, SE, S, SW, W, or NW
Height of surrounding grass	0–5 in., 6–10 in., or > 11 in.
Density of surrounding grass	sparse, moderate, or heavy
Habitat around box	grassland, pasture, orchard, plain fence row, cultivated field, wooded fence row, forest edge, suburban, building site, wetland, wooded pasture, or wooded grassland

1 egg and a successful nest had 1 or more fledged young. As a management practice designed to encourage bluebird use, House Sparrow nests were removed weekly.

Results

Habitat Preference.—In our study bluebirds used nest boxes mounted on wooden posts more often than those on steel posts ($p < 0.05$). This was the only statistically significant preference found for bluebirds. However, bluebirds also preferred habitats where grasses were short, but this preference was not significant ($p = .13$). Tree Swallows showed no habitat preference for any of the variables measured. House Wrens preferred wooded nest sites ($p < 0.01$), and greater distances from roads ($p < 0.01$).

Productivity.—Productivity was expressed as the number of young fledged per successful nest. Throughout the 5 breeding seasons, Tree Swallows were the most abundant and productive species using the nesting boxes, followed by Eastern Bluebirds, House Wrens, and a Black-capped Chickadee (see Tables 2 and 3). One red squirrel (*Tamiasciurus hudsonicus*), and numerous deer mouse (*Peromyscus* spp.) nests were found. One European Starling nested in a house with an enlarged entrance. If nests of these species were found during the bluebird nesting season, they were removed. Available boxes increased from 25 to 91 during the study period, while the percent occupancy by bluebirds decreased from 1983 to 1985 and increased in 1986 and 1987.

Discussion

Habitat Preference.—Results of the bluebird habitat survey were inconclusive. The only preference indicated by bluebirds was for boxes mounted on wooden posts. Bluebirds prefer scattered perches and low sparse ground cover to facilitate feeding on insects (Zeleny 1976, Kruger 1985). Since insects make up 57% of the bluebird nonwinter diet (J. Newbauer, paper presented at Midwest Bluebird Conf., Bloomington, MN, 1987) this preference would be consistent with their foraging habitat needs. Such a preference was not found in this study.

Results from this study suggest that Tree Swallows have no preferences for habitat features we measured. However, according to Willner et al. (1983), Tree

Table 2. Percent use of nest boxes by bluebirds, swallows and wrens in St. Croix and Polk counties, Wisconsin, 1983–87.

Year	Number of boxes	Percentage used by: Bluebirds	Tree Swallows	House Wrens
1983	25	16	64	8
1984[1]	31	6	64	3
1985	56	2	75	2
1986	71	22	75	1
1987	91	24	71	5
All years	274	16	72	3

[1]One Black-capped Chickadee nest resulted in 3% use.

Table 3. Occupancy and productivity in bluebird houses on managed lands in St. Croix and Polk counties, Wisconsin from 1983–87.

Parameter	Bluebirds	Tree Swallows	House Wrens
Number of nests	45	198	10
Average clutch size	4.1	5.7	3.9
Average brood size	2.7	4.9	3.6
Number fledged per nest	1.2	4.2	1.8

Swallows prefer open old fields and pastureland where distances to shrubs, trees and other perches are maximal. Since Tree Swallows forage by catching insects on the wing, perches are not as critical as they are for bluebirds. Kruger (1985) hypothesized that Tree Swallows prefer to nest near water and will compete with bluebirds for these sites. By contrast, Munro and Rounds (1985) and this study found no preference for nesting sites near water.

Our habitat preference data suggest that House Wrens prefer nesting sites near trees and brush. This data is consistent with that of Zeleny (1976), Willner et al. (1983) and Kruger (1985). The apparent preference for greater distances from roads is unclear. Since wrens forage on the ground, they may suffer a higher mortality when near traffic.

Our results did not confirm the habitat preferences documented by others (Zeleny 1976, Willner et al. 1983, Kruger 1985). This may be a result of box placement in similar habitat on all the properties. The majority of the uplands on these managed properties are maintained in tall dense grasses, thus reducing the habitat choices available. Furthermore, a shortage of available nest sites in the area may force secondary cavity nesters to use boxes, regardless of the type of habitat in which the houses are located. Future annual surveys are needed to detect changes in bluebird nesting-box use result from succession and management.

Occupancy Rates.—The occupancy of our boxes by bluebirds increased throughout the study period. This could be attributed to homing, recruitment of first year nestlings, increased preference for nest boxes as they aged, or placement of boxes in quality bluebird habitat (Munro and Rounds 1985). Once bluebirds begin nesting in an area, their density may increase over time (Zeleny 1976). However, occupancy rates in our study (Table 2) are slightly lower than those discussed by Peakall (1970) and Kruger (1985). Our lower occupancy could be a result of interspecific competition, insufficient sample size, or human disturbance which was a problem on two areas. To increase occupancy, boxes should be placed in preferred bluebird habitat and away from habitats preferred by competing species.

Productivity.—Others have found that bluebirds and Tree Swallows tend to be less productive when nesting near forest edges or near buildings, as a result of House Wren and House Sparrow competition (Zeleny 1976, Kruger 1985). House Sparrow competition in this study was reduced by the management practice of nest removal and by placing houses as far from buildings as possible. In our study area House Wrens produced 1.8 fledglings per nest compared

to the average productivity of 5.6 fledglings per nest reported by Harrison (1978). Such data suggest that preferred House Wren nesting habitat was not available around our nest boxes.

Our Tree Swallow production was average compared to that reported by Harrison (1978) and Halvorsen and Bacon (1983). Production at this level may indicate that Tree Swallow habitat requirements are met on these managed properties and that they are more successful at competing interspecifically for nest boxes than bluebirds.

Acknowledgements

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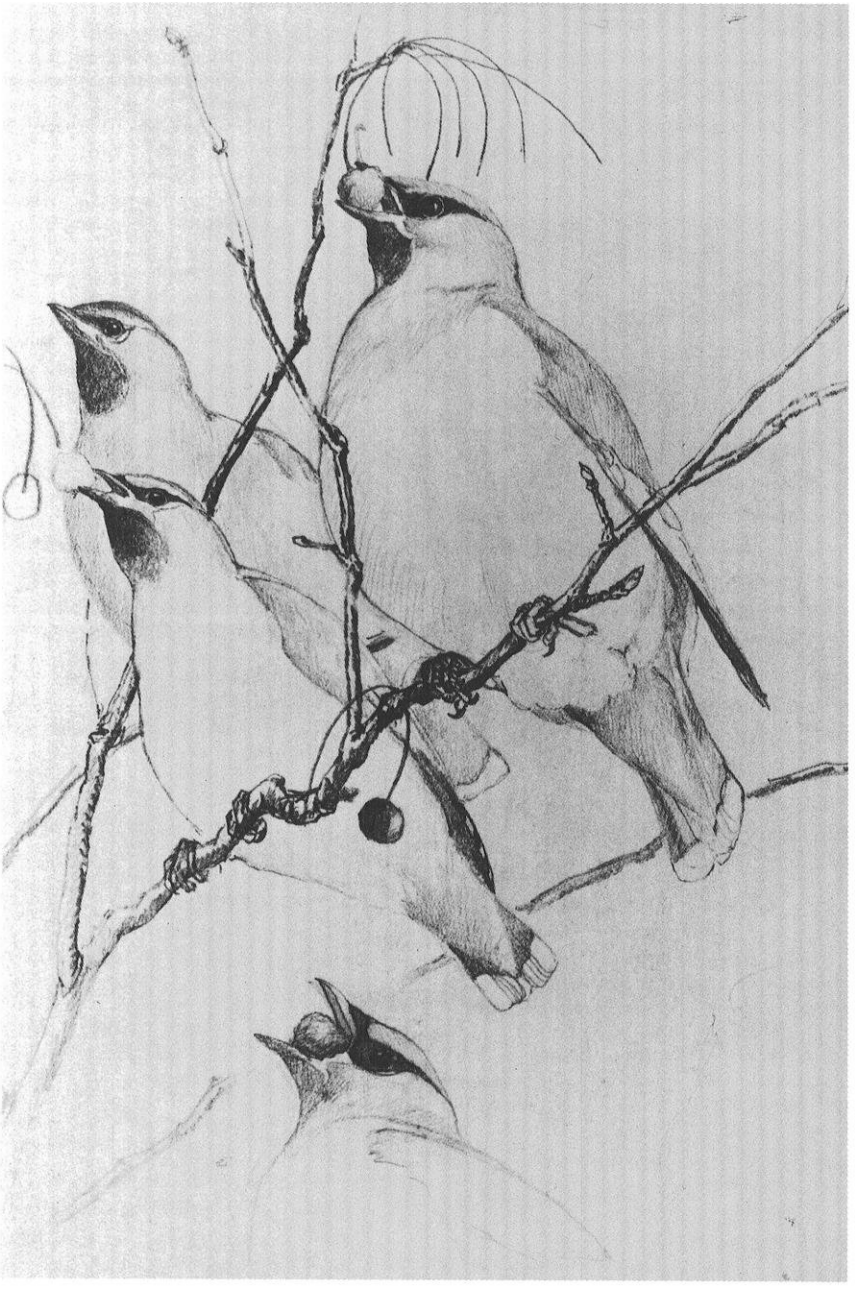

Cedar waxwings *by Jonathan Wilde*

House Cat Captures Gosling

Free-ranging house cats kill many birds. This note describes cat predation on waterfowl.

by James O. Evrard

Evidence of house cat (*Felis catus*) predation upon waterfowl is rare. This note documents the capture of a Canada Goose gosling (*Branta canadensis*) and unsuccessful attacks upon Mallards (*Anas platyrhynchos*) and Blue-winged Teal (*Anas discors*) by free-ranging domestic cats.

At 0930 hours on 17 May 1989, I examined a gosling that a cat brought to a rural residence adjacent to the federal Ausen Waterfowl Production Area (WPA) in St. Croix County, Wisconsin. Earlier in the morning, the landowner observed her cat enter her yard from the nearby WPA carrying an apparently dead gosling by its head. She took the gosling from the cat's mouth and found it was still alive but bleeding. Since the woman knew we were working in the WPA that morning, she instructed her son to contact us to take possession of the bird.

The gosling, which weighed 125 grams, had puncture wounds on both sides of its head posterior to the eyes. The wounds, apparently made by the cat's canine teeth, were still bleeding. One eyeball had been punctured, and there was slight swelling of the tissue surrounding both eyes. The bird was weak and could barely stand.

I placed the bird in a holding cage and later checked it at 1730 hours. The gosling was much weaker and could not hold its head upright. Both eyes were swollen shut and appeared to be infected. Knowing that the bird could not survive, I euthanized it.

Earlier in my study, I observed three unsuccessful attacks on nesting female ducks by house cats. In one incident, a cat made a lunge at a Blue-winged Teal female that was either on a nest or searching for a nest site in grassy cover about 20 m from a private wetland edge. The hen flushed, barely escaping the cat's claws in mid-air, and flew to the wetland.

The other two incidents occurred along a wetland edge in the Erickson WPA. In both incidents, I observed a Mallard hen flush from grassy cover a few meters from the wetland, land in the water and swim rapidly towards the center. A moment later, a cat dashed from the grass where the hen flushed, stopped on the water's edge, watched the duck for a few moments, then walked away along the shoreline.

Most early studies of the food habits

of free-ranging domestic cats concluded that few birds and even fewer gamebirds were taken (Errington 1936, Nilsson 1940, McMurry and Sperry 1941, Bradt 1949, Latham 1950, Eberhard 1954). However, Hubbs (1951) reported 40% of the 184 cat stomachs checked contained gamebirds and amounted to 25% of the volume. The majority of the birds were adult female Ring-necked Pheasants (*Phasianus colchicus*) and ducks. He was the first to show a substantial number of birds taken by cats and the only one to reveal ducks as important prey.

The impact of domestic cat predation on nesting and young waterfowl may be significant. S. A. Temple (personal communication) speculated that rural cats in Wisconsin may kill tens of thousands of gamebirds annually, mostly nesting and young pheasants, ducks, Ruffed Grouse (*Bonasa umbellus*), and American Woodcock (*Philohela minor*). A change in public attitude towards control of free-ranging domestic cats is needed.

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Birds of Tall Shrub Communities: Alder Thickets and Shrub-Carr

by Randy M. Hoffman

This article focuses on Wisconsin's tall shrub communities—alder thickets and shrub-carr. These communities are apparently quite recognizable to Wisconsin's birders. Ample recognition of these communities is given in *Wisconsin's Favorite Bird Haunts* and its 1979 Supplement. In those volumes, 87 of the 102 areas listed gave reference to tall shrub communities. Furthermore, these communities are recognizable to Wisconsin's hunters and anglers. At least 170 state fishery and wildlife areas are known to have tall shrub communities present.

Although recognized by many observers, these tall shrub communities are often little understood because they are usually a small part of a larger mosaic of plant communities. This is especially true from a bird observer's point of view. Most observers will record species from larger units, such as property boundaries, line transects, or counties, rather than discriminating by habitat usage. In the case of alder thickets and shrub-carr, bird usage can be very confusing, because the communities are usually linear with small acreage.

Curtis (1959) characterizes these tall shrubs as communities being dominated by shrubs 1.5 to 3 meters high with canopy coverage over 50%. In addition, they occur on wet-ground. These tall shrub communities are relatively stable, changing slowly to lowland forest if they are undisturbed. Those communities being dominated by speckled alder (*Alnus rugosa*) are called alder thickets. They are found primarily north of the tension zone. The communities south of the tension zone dominated by red-osier dogwood (*Cornus stolonifera*) and willows (*Salix* sp.) have been labeled shrub-carr.

The alder thicket is commonly found around lakes and along streams in Wisconsin north of the tension zone. This community is very stable in these narrow corridors. Speckled alder (or tag alder) is the dominant species. Ranges of dominance go from nearly pure stands to a shared dominance with willow and dogwood.

Shrub-carr is the southern Wisconsin equivalent with dogwoods and willows dominating and virtually no alder

present (Figure 1). White (1965) describes the shrub-carrs as being relatively heterogeneous due to irregularities in the soil and past disturbance history. Species dominance may vary from site to site depending on past site history.

Shrub-carr is a normal succession stage around lakes, being midway between the sedge meadow on one side and the lowland forest on the other. Many of today's shrub-carrs have a much different origin. During the 1930's many lowland mowing meadows were abandoned during the depression. These lands were quickly taken over by dogwoods, willows and other species (White 1965).

The plant species composition is vaguely similar in both communities. Alder thickets are dominated by alder, meadowsweet (*Spirea alba*), red-osier dogwood, and black currant (*Ribes americanus*) (Figure 2). Shrub-carrs are dominated by red-osier dogwood, slender willow (*Salix petiolaris*), meadowsweet, beaked willow (*Salix bebbiana*), pussy willow (*Salix discolor*), and bog birch (*Betula pumila*). Table 1 compares the 10 most common species in each community based on percent of presence.

While presence of species is useful for comparison purposes, it can be somewhat misleading because it does not account for density. Some species may be found throughout a community with plants individually scattered. This species would likely have a high presence. Other species may be spotty in distribution, but form dense clumps of vegetation. These species would have a lower presence, but may have more total numbers of plants; therefore, they may be more abundant.

The shrub-carr plant species com-

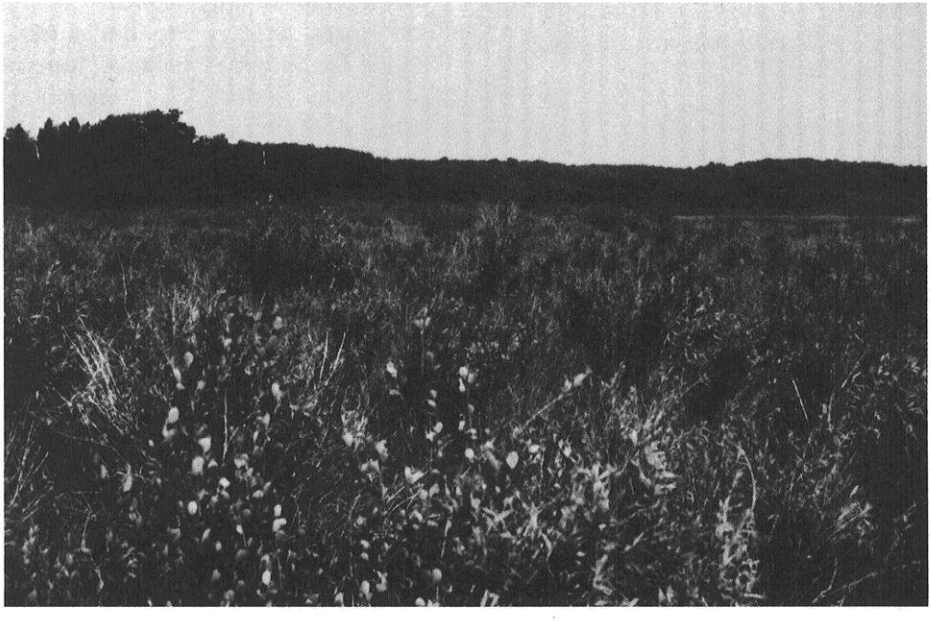

Figure 1. A shrub-carr community in Sheboygan County, WI.

Figure 2. An alder thicket community in Fond du Lac County, WI.

position is derived from those species associated sedge meadow, lowland hardwood forest and a few remnants of tamarack bogs. Although the shrub-carr is a transitional community, there are some species whose presence is greater there than anywhere else. These species include Jerusalem artichoke (*Helianthus tuberous*), swamp goldenrod (*Solidago parvula*), rice cutgrass (*Leerzia oryzoides*), red bulrush (*Scirpus lineatus*), snowy campion (*Silene nivea*), water parsnip (*Sium suave*), fleabane (*Erigeron philadelphicus*), beaked sedge (*Carex rostrata*), and lance-leaved loosestrife (*Lysimachia lanceolata*).

In a similar fashion, the alder thicket's plant species are reflective of the surrounding communities, but there is much more homogeneity. This may be due to the condition perpetuated by the alder itself, which forms nearly pure stands and forms clumps separated by pools of water. Those species found more often in alder thickets than anywhere else include fringed brome (*Bromus ciliatus*), turtlehead (*Chelone glabra*), mint (*Mentha arvensis*), great water dock (*Rumex orbiculatus*), Canada goldenrod (*Solidago canadensis*), leathery grape fern (*Botrychium multifidum*), virgin's bower (*Clemtis virginia*), willow herb (*Epilobium coloratum*), bog bedstraw (*Galium labradoricum*), yellow avens (*Geum alepicum*), tall sunflower (*Helianthus giganteus*), hop (*Humulus americana*), marsh pennywort (*Hypericum pyramidatum*), and wool grass (*Scirpus cyperinus*).

Bird utilization of the tall shrub communities, as with the plant species, is dependent upon the surrounding communities. For example, those species utilizing a stream corridor of alder

Table 1. The 10 most common plants in alder thickets and shrub-carr, based on percent cover.

The 10 most common plant species of:	
Alder thicket	Shrub-carr
Panicled aster (*Aster simplex*)	Blue joint grass (*Calmagrostis canadensis*)
Spotted Joe Pye weed (*Eupatorium maculatum*)	Late goldenrod (*Solidago gigantea*)
Blue joint grass (*Calmagrostis canadensis*)	Swamp milkweed (*Asclepias incarnata*)
Dark green rush (*Scirpus atrovirens*)	Panicled aster (*Aster simplex*)
Marsh fern (*Thelypteris palustris*)	Spotted Joe Pye weed (*Eupatorium maculatum*)
Sensitive fern (*Onoclea sensibilis*)	Purple meadow-rue (*Thalictrum dasycarpum*)
Marsh bellflower (*Campanula aparinoides*)	Manna grass (*Glyceria striata*)
Rough bedstraw (*Galium asperllum*)	Spotted jewelweed (*Impatiens biflora*)
Spotted jewelweed (*Impatiens biflora*)	Common water horehound (*Lycopus americanus*)
Arrowleaf tear thumb (*Polygonum sagittatum*)	Reed canary grass (*Phalaris arundinacea*)

through a coniferous forest will be composed of coniferous forest edge species, alder tall shrub species and stream species. Whereas, an alder thicket formed in a low depression within a large sedge meadow will be composed of sedge meadow species and alder tall shrubs species. Shrub-carr will have similar effects dictated by the surrounding communities. Table 2 compares those commonly found in shrub-carr and alder thicket regardless of surrounding communities.

Six additional species are encountered in alder thickets that do not show up on lists. Two species, Philadelphia Vireo and Wilson's Warbler, utilize this community almost exclusively but are found breeding much further north in Canada. Two Wisconsin nesters that typically appear on breeding bird surveys involving alder thickets are the Yellow-bellied Flycatcher and Olive-sided Flycatchers. Both of the species commonly occur along stream side alder thickets flowing through co-

Table 2. Common bird species of tall shrub communities.

	Species present in:	
Species	Shrub-carr	Alder thickets
Ring-necked Pheasant	X	
Alder Flycatcher		X
Willow Flycatcher	X	
House Wren		X
Veery	X	X
American Robin	X	X
Gray Catbird	X	X
Cedar Waxwing	X	
Yellow Warbler	X	X
Common Yellowthroat	X	X
Song Sparrow	X	X
Swamp Sparrow	X	X
Red-winged Blackbird	X	X
Common Grackle	X	X
Brown-headed Cowbird		X
American Goldfinch		X

niferous forests. The Olive-sided Flycatcher prefers cool coniferous spots near water and the Yellow-bellied Flycatcher prefers the understory of deep forest bogs (Bent 1942). The habitat preference of these flycatchers many times overlap the narrow alder corridors. Another species is the American Woodcock, probably unrecorded due to the nature of the survey that is being run in June and in mostly daylight. Although nest sites were mostly found in drier upland edges, the alder thicket was extensively used in summer and fall for foraging, and occasionally, used for nesting (Gregg 1984). Preferred nest sites were those in close proximity to feeding areas. Finally, the Lincoln's Sparrow, a species that prefers open alder and willows swamp interspersed with sedges and grasses. They are most commonly found along the edges of streams and lakes. They were probably missed on our surveys because they are at the edge of their range in Wisconsin and the limited number of sites surveyed.

By looking at Table 2, the reader can see these birds, with the exception of Alder Flycatcher and Willow Flycatcher, and Veery, are ubiquitous birds found throughout fragmented urban-agricultural landscape. This list is reflective of those species with wet-ground shrub-edge preference that have been able to adapt to man's manipulation of the landscape. By adding upland edge species, open ground species and exotics, a fairly complete list of birds for a fragmented landscape could be formed.

The Alder Flycatcher and Willow Flycatcher have an interesting history. They were separated into species in 1973 (American Ornithologists' Union 1973). They have nearly identical field marks and can only be separated by song. The Willow Flycatcher (*Empidonax trailli*) has a two syllable, "fitz-bew," call while the Alder Flycatcher has a trisyllabic, "fee-bee-o," call. Their range in Wisconsin overlaps greatly; however, there is a preponderance for alder north of the tension zone and willow south of it (Robbins 1974). Historical habitat preference for willow is dry open habitat and alder is shrubby alder swamps (Bent 1942). Both species use similar foraging strategies, that of hawking and gleaning insects from shrubby or low tree perches. How these species partition the resource in the range of overlaps is still a matter of conjecture. Some studies have proposed the species maintain their habitat preferences when they overlap (Zink and Fall 1981), while others indicate there is niche overlaps with no evidence of competition (Barlow and McGillvray 1983). These two species are just beginning to be understood. Many more studies need to be done to understand why they are so similar, yet different.

Another resident of these shrub-carrs and alder thickets, which is a surprise to many, is the Veery. This bird is primarily thought to be a bird of large intact deciduous or mixed woods, but is also found in willow and alder swamps. The western subspecies was given the name willow thrush because it had a preference for willows. Beyond the habitat preference this subspecies has minor behavioral differences, being more shy and elusive than the Veery and a much lower singing perch, seldom coming to the tops of the tall shrubs (Bent 1949).

The five state natural areas chosen have one thing in common, that is a relatively undisturbed past. Many of

those 170 public-owned sites mentioned earlier have varying degrees of past disturbance. A large percentage have developed on formerly grazed, mowed or plowed land, subsequently purchased for public hunting and fishing. While these lands have extensive avifaunas, they don't have the presettlement character necessary to understand how these tall shrub communities function in a natural state.

Rice Lake-Thunder Lake Marsh

Site.—Rice Lake-Thunder Lake Marsh State Natural Area encompasses 250 acres. It is located within 2,200-acre Thunder Lake Wildlife Area.

Location.—Northeastern Oneida County, just northwest of Three Lakes.

Access.—From Three Lakes go one mile north on highways 45 and 32, then west on Rice Lake Road nearly 2.5 miles to the edge of Rice Lake. The alder thicket surrounds the lake. The first 2.5 miles is nearly all within Thunder Lake Wildlife Area.

Rice Lake-Thunder Lake Marsh contains Rice Lake—a shallow, soft-water drainage lake, well-known for its production of wild rice which varies from year to year depending on the lake level. Surrounding the lake are a sedge meadow, well-anchored in muck and composed mainly of bluejoint, sedges, cattail, and bulrushes, and an alder thicket, dominated by alder, willow, and bog birch. Birds found there (Table 3) are those typically found in sedge meadow; Sedge Wren, Common Yellowthroat, Swamp Sparrow, and Red-winged Blackbird. Some of the more unusual but regular visitors include the Great-blue Heron, Black Tern, and Sandhill Crane. The area is also a waterfowl refuge. In spring large numbers of Mallards and Ring-necked Ducks use the lake, and in fall large concentrations of diving ducks can be observed. In addition, Bald Eagles and Ospreys, both state-threatened, nest and feed in the area.

To the east is the extensive Thunder Lake Wildlife Area. This area is heavily managed as a state wildlife area. One hundred duck brooding ponds have been constructed. In addition, extensive brushing and prescribed burns are used to maintain large acreages of sedge meadow and shrub-heath habitat.

Upper Brule River

Site.—The 182-acre state natural area encompasses the area east of the Brule River and north of Stone Chimney Road.

Location.—Douglas County about five miles northeast of Solon Springs, within Brule River State Forest.

Access.—From the intersection of County Hwys. A and P north of Solon Springs, go north on County Hwy. P 2.6 miles, then east on Stone Chimney Road 1.9 miles to a parking area. Take a fisherman's access to the southern boundary.

Site Description.—The Upper Bois-Brule River features a segment of the outstanding cold water Bois Brule River and its associated alder thickets, swamp conifer, and swamp hardwoods. This reach of the Brule, known as the upper Brule, has an entirely dif-

Table 3. Average number of birds encountered on breeding season surveys in three alder thickets.

Species	Average numbers of birds detected at: Rice Lake	Upper Brule River	Honey Creek
Great Blue Heron	4	0	0
Canada Goose	+	0	0
Wood Duck	8	0	0
Mallard	2	+	0
Blue-winged Teal	2	0	0
Ring-necked Duck	4	0	0
Osprey	1	0	0
Bald Eagle	+	0	0
Northern Harrier	1	0	0
Ruffed Grouse	0	1	0
Sandhill Crane	2	0	0
American Woodcock	0	1	1
Black Tern	1	0	0
Mourning Dove	0	0	1
Black-billed Cuckoo	+	+	0
Belted Kingfisher	0	+	0
Yellow-bellied Sapsucker	0	+	0
Hairy Woodpecker	0	+	0
Northern Flicker	+	1	0
Pileated Woodpecker	0	1	0
Olive-sided Flycatcher	+	+	0
Eastern Wood-Pewee	0	+	0
Yellow-bellied Flycatcher	0	4	0
Alder Flycatcher	4	3	0
Great Crested Flycatcher	0	1	0
Purple Martin	+	0	0
Tree Swallow	2	+	0
Gray Jay	0	+	0
Blue Jay	0	2	1
Northern Raven	0	+	0
American Crow	+	0	+
Black-capped Chickadee	+	1	0
Red-breasted Nuthatch	0	1	0
Brown Creeper	0	2	0
House Wren	0	0	1
Winter Wren	0	3	0
Sedge Wren	14	2	0
Golden-crowned Kinglet	0	1	0
Veery	1	5	2
Hermit Thrush	+	1	0
American Robin	+	1	1
Gray Catbird	1	0	2
Cedar Waxwing	+	+	0
Red-eyed Vireo	1	2	0
Blue-winged Warbler	0	0	+
Golden-winged Warbler	0	+	0
Nashville Warbler	0	8	0
Northern Parula	0	5	0
Yellow Warbler	7	0	1
Yellow-rumped Warbler	+	1	0
Black-throated Green Warbler	0	1	0
Pine Warbler	0	+	0

continued

Table 3. *Continued*

Species	Average numbers of birds detected at: Rice Lake	Upper Brule River	Honey Creek
Black and White Warbler	0	2	0
American Redstart	0	+	0
Ovenbird	0	2	0
Northern Waterthrush	0	1	0
Louisiana Waterthrush	0	0	+
Common Yellowthroat	7	4	2
Canada Warbler	0	1	0
Scarlet Tanager	0	1	0
Northern Cardinal	0	0	1
Rose-breasted Grosbeak	0	3	1
Song Sparrow	5	2	1
Swamp Sparrow	13	3	1
White-throated Sparrow	3	5	0
Red-winged Blackbird	22	0	1
Common Grackle	0	0	1
Brown-headed Cowbird	0	+	0
Purple Finch	0	+	0
American Goldfinch	+	+	0
Evening Grosbeak	0	+	0

+ Average less than one per survey.

ferent character than the portion below Stones Bridge. Here the river meanders sluggishly through a bog with a wide alder zone. North and west of the alders is an area of conifer swamp dominated by white cedar, balsam fir, and spruce; south and east is a hardwood swamp dominated by ash. Bird life (Table 3) is very diverse with nesting records for Alder Flycatchers and Yellow-bellied Flycatchers, Evening Grosbeak, Red Crossbill, Golden-crowned Kinglet, and these warblers: Black-and-White Warbler, Nashville Warbler, Northern Parula, Black-throated Green Warbler, Yellow-rumped Warbler, Ovenbird, Northern Waterthrush, and Common Yellowthroat. Bobcats are sometimes seen and often heard.

Honey Creek

Site.—The 310-acre site is owned by the Wisconsin Society for Ornithology. In addition, the site is a designated state natural area.

Location:.—Western Sauk County.

Access.—From the intersection of Hwys. 12 and PF, just west of Prairie du Sac, go west on County Hwy. PF 14.3 miles, then west on Sky View Road 0.5 miles to the site.

Site Description.—Honey Creek state natural area lies along a portion of Honey Creek. The topography ranges from creek bottoms and boggy areas through steep slopes and rock escarpments to upland ridges. Within the natural area boundaries, there are twenty-five distinct soil types. Given this range in topography, and soils, it is no surprise that the site supports a varied and unusual flora and fauna. More than five hundred plant species thrive here. The site was originally pro-

tected as a bird sanctuary, and more than 80 species have been recorded during the nesting season (Table 3).

Cherry Lake Sedge Meadow

Site.—The 120-acre state natural area is a part of the 1,080-acre Honey Creek State Wildlife Area.

Location.—Western Racine County just south of Rochester.

Access.—From Rochester go south one mile on County Hwy. W to the Honey Creek Wildlife Area parking lot, then walk west-southwest one-half mile into the area.

Site Description.—Cherry Lake

Table 4. Number of birds encountered on breeding season surveys in two southern Wisconsin shrub-carrs.

Species	Average number of birds detected at: Cherry Lake	Waubesa Wetlands
American Bittern	0	2
Wood Duck	0	1
Mallard	0	8
Ring-necked Pheasant	0	2
Sandhill Crane	0	6
Mourning Dove	1	0
Downy Woodpecker	1	2
Northern Flicker	2	0
Willow-flycatcher	0	13
Great Crested Flycatcher	1	1
Eastern Kingbird	1	3
Tree Swallow	0	7
Blue Jay	2	2
Black-capped Chickadee	6	4
White-breasted Nuthatch	1	0
House Wren	1	2
Sedge Wren	0	9
Marsh Wren	0	2
Veery	5	2
American Robin	6	11
Gray Catbird	6	15
Cedar Waxwing	4	1
Red-eyed Vireo	1	0
Blue-winged Warbler	1	0
Yellow Warbler	1	6
Mourning Warbler	1	0
Common Yellowthroat	22	31
Northern Cardinal	3	4
Rose-breasted Grosbeak	2	0
Indigo Bunting	2	2
Rufous-sided Towhee	2	3
Chipping Sparrow	0	1
Field Sparrow	1	0
Song Sparrow	9	6
Swamp Sparrow	19	20
Red-winged Blackbird	2	56
Common Grackle	1	6
Brown-headed Cowbird	6	2
American Goldfinch	8	9

should be more appropriately called a sedge bog. There are irregular openings of water, but these are quite small. The sedge meadow surrounding and interspersed with these watery openings, contains a diverse array of alkaline and acid tolerance plants. North of Cherry Lake is a tamarack-poison sumac bog. Surrounding the remainder of the sedge meadow is shrub-carr. These shrub form a typical hydrosere succession with a sedge meadow in the interior and a narrow zone of lowland hardwoods between the shrub-carr and the surrounding uplands. The shrub-carr varies in quality from being undisturbed to a moderately disturbed shrub-carr along a road in the southwest corner. The birds of Cherry Lake are listed in Table 4.

South Waubesa Wetlands

Site.—This state natural area is located at the southwest edge of Lake Waubesa, this wetland complex is owned by WDNR Bureau of Endangered Resources, WDNR Bureau of Wildlife Management, The Nature Conservancy and private tracts.

Location.—Dane County.

Access.—By boat or canoe from the southwest corner of Lake Waubesa. Or go west on County Highway B from its intersection with U.S. Highway 51, just south of McFarland, 4.4 miles to Lalor Road, then north on this road 1.1 miles to a walk-in access east of the road.

Description.—The south Waubesa wetlands are a complex of shrub and open wetland communities formed on extensive peat deposits. Found throughout the complex are large springs, one of which is exceptionally deep and contains unusual algae. The spring runs merge to form small streams, which eventually flow into Lake Waubesa. Tall shrubs grow in corridors along these streams and along the upland-wetland edges. These shrub communities are dominated by red-osier dogwood and willows. The surrounding areas are dominated by sedges with several areas containing fen species. The birds of Waubesa wetlands are listed in Table 4.

Acknowledgements

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American Woodcock *by Jonathan Wilde*

Alick Wetmore in 1901 at age 15 with a copy of *Bird-Lore,* which contains his June bird census for that year (*Photo courtesy of the Smithsonian Institution*).

Alexander Wetmore's Wisconsin Years

by Kenneth I. Lange

Alexander Wetmore was one of America's outstanding ornithologists. Born in Sauk County during the presidency of Grover Cleveland in 1886, he roamed the woods, fields, and Baraboo River bottoms around North Freedom during his first 18 years of life. Above all he observed birds, for young Alick apparently had decided at an early age that he wanted to become an ornithologist. In 1904 he and his mother moved to Kansas, where he graduated from high school the following spring. Wetmore eventually became a world authority in bird migration, classification, distribution, and paleontology, and he amassed a bibliography that filled many pages. Although he became Secretary of the Smithsonian Institution and served actively for a number of scientific groups and advisory panels, his favorite pastime remained bird-watching. As a friend observed, "Circumstances made him an administrator, but those who know him best say that he long ago lost his heart to the wilderness." Sherwood (1978), Scott (1979), and Oehser (1980) have discussed Wetmore's life and accomplishments, including what little is known of his Wisconsin years. The present sketch focuses on his early writings and some later recollections about Wisconsin birds.

Both of Wetmore's parents, especially his mother, fostered their son's interest in birds. His mother gave him a copy of Frank Chapman's *Handbook of Birds of Eastern North America*—first published in 1895 and the bird book of its day and his father, a country doctor, watched birds with him. Alick started his first nature diary and field notebook at the age of 8 with an entry from Florida about pelicans (Sherwood 1978).

His first published paper appeared in the October 1900 issue of *Bird-Lore* (now *Audubon*), which was edited and published by Chapman. It is an account of his observations of a Red-headed Woodpecker storing acorns and covering them with pieces of bark. To my knowledge, this method of sealing food stores by this species had been reported previously by only one author (Hay 1887), and was not reported in detail until quite recently (Kilham 1958). The young author reveals child-like wonder, patience, and clarity of

observation in a vibrant style relatively free of the melodramatics so in vogue in nature writing at that time. His talent and passion, derived from the support of his parents and probably also from his rural, relatively natural environment, are here revealed in print for the first time. Here is Wetmore's paper in its entirety:

"The first time that I saw the subject of this sketch was on Sunday, October 8, 1899. As I was going along a ravine on that day, I heard a loud, tree-toad-like *ker-r-r-ruck* coming from the top of a tall dead stub. I looked up and soon saw that the owner of the voice was a young Red-headed Woodpecker. His (?) head was a dusky color. He would stick his head around the tree and, after giving the note, dodge back. I thought I would keep a sharp eye on him, and a little while afterward I was rewarded by seeing him get an acorn from a small oak. He seemed to be storing acorns up for winter in holes and crannies.

"Once he lit on an oak limb that would not bear him, and it swung until he hung back down, but he got his acorn. While he was flying off, a little Junco seemed to think that he was trespassing and flew at him in a rage and made him get out of the way. I went to a stump nearby and got an acorn and found that it was whole. A few marks on the shell showed where he had hammered it into the crevice. He always seemed to go to the same tree for his acorns.

"I lay down on the bank of the ravine close to the tree in the sun to watch him, but he was suspicious and would not come near at first. I was rather surprised to see that he could easily go down a tree backwards, lifting his tail and, after hopping down, falling back onto it. Everywhere he went, he expressed, in vigorous notes, his disgust at having me around.

"The stub he liked best was very tall and had a crack in it near the top, and into this crack he hammered, with his shiny white bill, all the acorns that he possibly could. Some of them he cracked in two and then put them in the crack. One fragment he dropped as he lighted. He was after it quick as a flash, and chased it so near the ground that I thought he would dash himself onto it and be killed, but he turned up just before he reached it and flew off without the acorn.

"In a cornfield a short distance away I found some nubbins for him. While I was looking for a place to put them up, I found a hole with sixteen acorns in it. He had put them there, for I could see the marks of his bill on them and around the edges of the hole were a few small dark gray feathers. He had hidden the acorns by putting pieces of bark over them. I then went back to where he was and saw him drinking water, like a chicken, out of the brooklet. After returning from a short walk, I saw him carrying a large piece of bark to put over the acorns that I had uncovered. He started from the base of his stub, but as the bark was nearly as large as he was he could not carry it and was forced to drop it. As it was then nearly dark, I had to go home without learning where he stayed nights, and which, indeed, I never found out.

"The next Sunday, the 16th of October [?], I did not have much time. When I reached the ravine he was catching insects. He was in the top of a tree and would fly out after the insects as they flew by but, growing tired of this, he went to the ground after an acorn. When I went to the hole in which I had found the sixteen acorns before, I now took out forty-five.

"Sunday, November 19, I thought I would pay my Red-head a visit. As I did not see him for about fifteen minutes, I thought that some wandering hunter had killed him; but while looking around I heard a welcome *ker-r-r-ruck*, and there he was on his favorite stub. After taking a look at me, he flew down for a drink,

with a loud note before he left the stub and shorter ones in between drinks to call attention, and well he might! His somber head had turned red since I had seen him last. The color was a little dark in places, but was fine all the same.

"I next saw him on Sunday, November 26. I had gone to my usual place of study and was watching some Pine Siskins when he appeared. He was rather cross, for he chased a Tree Sparrow until it took refuge in a thick, bushy thorn-apple tree. Then he watched until it came out and took after it again. I watched him sunning himself— for it was quite warm— and then went over to the hole in which I found so many acorns. It was empty, and a number of shells were scattered around the foot of the tree.

"From my note-book I see that the date of my next visit was Sunday, December 3. It was cold and snowing quite hard. I put on my overcoat and went down to see him. I may have wanted to see him, but he was evidently afraid of that big black thing in the fence-corner. He scolded and bobbed as though crazy till a pair of Blue Jays lighted in the tree. He was afraid of them and went around to the other side of the trunk and kept still until they left.

"On Monday February 12, I saw him last. He was across the river from the ravine in a tree after acorns.

"I know that he is still here and alive, and I intend to watch him in the spring when he sets up housekeeping."

Wetmore's next contribution to *Bird-Lore* was a Christmas bird census. Chapman began the Christmas Bird Counts in 1900, and in that first year the only one published from Wisconsin was "North Freedom, Sauk Co." by Wetmore. He repeated it in 1901 and 1902 (*Bird-Lore* 3:32, 4:30, and 5:20).

Chapman was an ornithological pioneer, and in 1901 he initiated breeding bird surveys with the "June Bird Census" in his magazine. The first census results published were from Wetmore and his friend James Seeley (Wetmore and Seeley 1901). Young Alick must have been especially thrilled when he read Chapman's (1901) method of selecting the censuses for publication:

> "While we have received a number of responses to the suggestion of a June bird census, very few of the lists sent are based upon the detailed observation required to make them of value in this connection. A mere enumeration of the species seen even when accompanied by the statements of 'Common,' 'Abundant,' etc., does not aid us in learning with comparative exactness the number of individual birds occupying a given area. Only those who have tried to make a bird census are aware of the time, care, and patience it of necessity requires. It is not surprising, therefore, that so few of the returns are available for publication."

From 3–30 June, Wetmore and Seeley found a total of 58 species and 268 individuals, including 10 Northern Bobwhites, 2 Cooper's Hawks, 2 Red-shouldered Hawks, 1 Merlin, 5 American Kestrels, 1 Yellow-bellied Sapsucker, and 3 House Sparrows in their census area, which they described as "corn and oat fields, sloping meadows, heavily wooded bottoms, thick bushy tracts, a wild plum orchard and a marsh."

Today the area is still rural, but with more agricultural land. Bobwhites have become scarce. House Sparrows are now numerous, as are European Starlings, which had not yet invaded Sauk County in Wetmore's time. The diversity of breeding raptors was impressive then in the North Freedom area, and several species subsequently declined. Today the Merlin is gone.

American Kestrels and Red-shouldered Hawks are certainly less common than in 1901. Cooper's Hawks have recently reappeared and may even be approaching their former abundance. The Red-tailed Hawk is now the hawk most likely to be encountered around North Freedom, and its absence from Wetmore and Seeley's list may have resulted from widespread persecution of "chicken hawks" in that era. The Turkey Vulture was also absent from the 1901 census, but has since become common in the area (Mossman and Lange 1982).

In 1929, Aldo Leopold wrote Wetmore at the U.S. Biological Survey in Washington, D.C., for information on Ruffed Grouse cycles, severe winter kills of Northern Bobwhites, and records of Sharp-tailed Grouse and Wild Turkey (Leopold 1929). Wetmore (1929) replied that while it was true that "I was born in North Freedom, Wisconsin and . . . made my early studies in birds in that region . . . I left there . . . before I learned the value of definite written records regarding certain things so that I am not in a position to give you definite information in response to your questions." Today's field ornithologists take note! Bird populations and habits are changing now, just as surely as in the past. "The best I may do", Wetmore added, "is as follows . . .

> "(1) Ruffed grouse were common on the wooded hills about North Freedom until I left there in the fall of 1904. I had regular places in which I found the birds and spent considerable time in watching them, only occasionally doing any shooting. The bird was not much sought by hunters at that time since there were few sufficiently expert to kill the birds on the wing. Those that I shot were taken more from a boyish pride in being able to hit them, than for any other reason. I had a small dog that travelled the woods with me, and that was quite adept in treeing grouse, but I do not now recall having shot one under those conditions . . . So far as my observations went there was no cycle of abundance and scarcity in this species. My observations extended from 1896 when I was ten years old to 1904 . . .
>
> "(2) There was one winter when we had heavy snows with a thaw in February or March, and a succeeding sudden freeze that covered the country everywhere with a crust of ice when the majority of the quail were killed . . . Following this freeze quail were very scarce for two years or so and then gradually increasing. I knew of several coveys in our general region.
>
> "(3) I can tell you nothing about sharptailed grouse in Sauk County except that it is my indistinct remembrance that there was a mounted bird of this species in the collection in the High School at Baraboo . . . The collection . . . when I knew it was in the Public Library in Baraboo where I prepared labels for it; later on it was moved to the High School . . . There were 'prairie chicken' in the open country several miles east of Baraboo. I went there once to search for them but was not successful in finding them and so do not know the species.
>
> "(4) I regret that I can tell you nothing about wild turkeys in Sauk County since I do not recall having heard them mentioned. I might suggest that you write to Mr. Bernie Sullivan, North Freedom . . . one of my boyhood friends whose father, uncles and cousins were great hunters. Possibly he can give you some information."

Sharp-tailed Grouse did persist in low numbers in Sauk County into recent years, and, as Wetmore stated, Greater Prairie-Chickens once inhabited the Baraboo River Valley (and

nearby areas in Sauk County), although they have since disappeared. The Wild Turkey is now re-established as a breeding bird in Sauk County from Wisconsin Department of Natural Resources releases that began in 1982 (Mossman and Lange 1982).

One wonders how many of today's amateur and professional ornithologists, and scientists in general, were influenced in one way or another by this international figure. For a number of years in the 1950s and 1960s, I lived in Washington, D.C. and worked at the Smithsonian Institution. In 1959 I was a guest of the Biological Society of Washington at their annual Plummer's Island clam bake along the Potomac River, and now, 30 years later, my fondest recollection of that spring day is the kindness and thoughtfulness of a tall, white-tailed gentleman who shared his meal and his thoughts with me, a young stranger from Wisconsin.

If Wetmore had grown up in some other area or with less supportive parents, would he have pursued essentially the same course? The certainty is that among the sloping meadows and heavily wooded bottoms of the North Freedom area, young Alick first "lost his heart to the wilderness." As John Muir expressed it, we need "beauty as well as bread," and wild places where "Nature may heal and cheer and give strength to body and soul alike." Wetmore's youth should inspire us anew to continually provide and protect such places for the children of today and the children yet to come, and to encourage young people to explore and observe. Who knows how many potential naturalists would be inspired by environments such as the one that helped start "Alick" Wetmore on his path to becoming one of America's leading scientists, the "20th-century doyen of American ornithology?"

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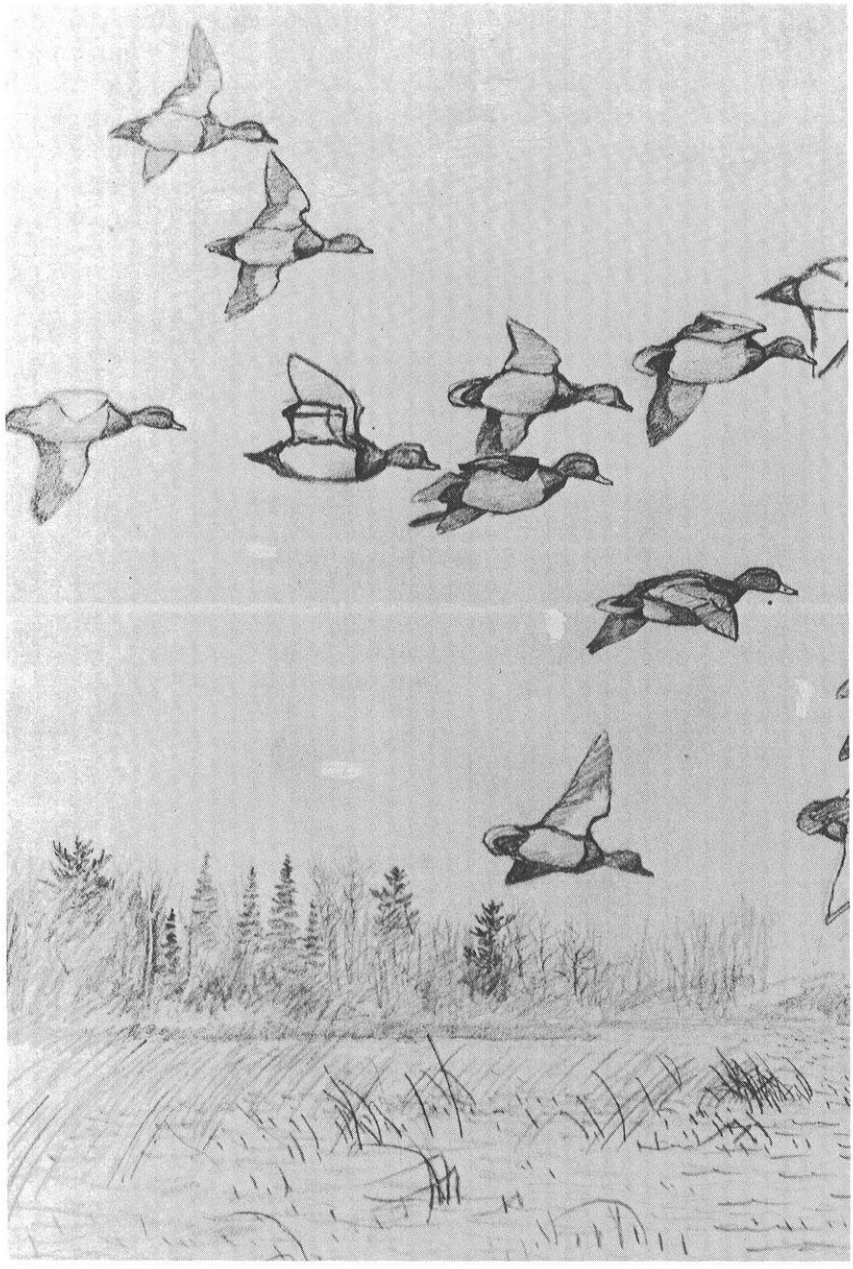

"Bluebills" *by Jonathan Wilde*

"Urban Waterfowl"

by Scott R. Craven

Most of us don't think of various waterfowl as "backyard birds" unless they are domesticated varieties raised for pets, food, or other uses. However, for many residents of Wisconsin—and many other areas in the U.S.—waterfowl, especially Mallard ducks and Canada Geese, have become backyard, or at least urban, birds. This is particularly true if we include city parks and waterways and other local open spaces as part of our "extended yards." Waterfowl in urban or suburban settings present opportunities for much joy and recreation but also for some very complex problems.

There are 3 species of waterfowl in Wisconsin that deserve some discussion, the Mallard duck, Canada Goose, and Mute Swan. They may be found together in mixed flocks or only in aggregations of a single species, especially in the case of the Mute Swan. All three may be found throughout Wisconsin with the Mallard most numerous, the Canada Goose gaining fast, and the Mute Swan in a distant third place. Both the Mallard and Canada Goose are native species that are simply adaptable enough to get along quite well with humans. The Mute Swan is an exotic species intentionally introduced to this country from Europe almost a century ago.

In general waterfowl in an urban environment are quite popular with the citizenry—up to a point. The appeal of the Mute Swan stems from its grace and beauty and wide use as a symbol in art, poetry, and park-like environments. Ducks and geese are large, appealing in their movements and calls, and can easily be conditioned to hand feeding or regular visitation to a backyard feeding station. During the nesting season the downy ducklings and goslings have tremendous appeal to children and adults alike. "Duck traffic jams" are not uncommon in several Wisconsin cities when a hen Mallard leads her brood of newly hatched ducklings to water without regard for DON'T WALK signs or rush hour traffic!

The popularity of urban waterfowl is difficult to dispute and was even studied in an interesting research project on park Mallards in Massachusetts in 1973. An estimated 10,000 Mallards and 2,000 Black Ducks wintered in

suburban Boston parks. About 35,000 people visited 6 of these parks to see or feed the ducks. In a one-month period they brought with them 7,800 pounds of food—the equivalent of 6,550 loaves of bread!

Similar scenes are repeated in parks and urban areas all over Wisconsin. Madison's resident Mallard population averages over 2,000 birds. Audubon Society Christmas Bird Counts identified large resident flocks in Appleton, Green Bay, Milwaukee, Racine, and Beloit. Basically, where there is open water, there will be ducks.

Mallards are very adaptable. In Madison the ducks visit backyard feeding stations or wait for handouts wherever people gather. Some flocks still make regular feeding flights to corn fields on the edge of the city during fall. It is their nesting behavior that attracts the most public attention. Mallard nests have been found in nearly every conceivable location and at great distances from water. I have rescued ducklings and very excited hen Mallards from the 7th floor of UW hospitals, from a 4th floor roof near the capitol, and from gutters, storm sewers, planters, courtyards, and window wells. Most people are very concerned about the ducklings' well being and are more than willing to help. Remember if you need to move a Mallard brood to water, catch the hen first then the ducklings, but release them in the reverse order.

If your yard borders or contains any water, even a swimming pool, attracting ducks should be an easy proposition. A well-placed Wood Duck nest box may even attract a pair of these beautiful ducks.

While feeding and seeing some ducks is enjoyable, an abundance of ducks may lead to some problems. Mallards frequently like to loaf on docks or moored boats where their large fecal droppings are most unwelcome. Large flocks may foul lawns, golf courses and sidewalks with droppings. Around small ponds, persistent use by large numbers of ducks can cause severe shoreline degradation. There is also some concern that urban flocks may harbor disease problems that could be passed to their wild relatives during spring and fall migration. Also, not everyone is thrilled by a rush hour traffic jam while one or more ducks slowly waddle across the road!

Canada Geese are similar to Mallards in their urban habits. The best known urban flock in the midwest is the winter concentration of over 20,000 geese at Silver Lake in Rochester, Minnesota. The northeast coast of the United States has numerous resident geese in urban or suburban environments. Resident nesting geese are increasing throughout Wisconsin and some have adapted to urban life. Unlike ducks, they always nest near water and are more threatening to people during the nesting season. Milwaukee and its suburbs probably have the largest concentrations of geese in an urban setting, followed by Green Bay. Numbers vary with the season, but some sites support hundreds if not thousands of birds.

Like ducks, geese are fun to see and hear, but is it more enjoyable to see and hear 1,000 than 100? That is the dilemma facing park and resource managers in Milwaukee. As flocks of either ducks or geese increase beyond the ability of their habitat to support them, problems intensify. With geese the problems are primarily fecal contamination of lawns, golf courses, parks, and water bodies, aggressive be-

havior toward people (and geese have the size to be intimidating), and general disturbance. Milwaukee officials are considering various strategies for coping with growing waterfowl populations.

What are some of the options? There are many possibilities and all have advantages and disadvantages. Geese have been rounded up during their flightless period and shipped off to far away places that want them to establish new populations. That worked well, but it has become nearly impossible to find anyone that still wants more geese! Limited hunting has been tried in areas where it's safe and legal to do so, but lethal solutions, such as hunting, always meet with public resistance. Various scare devices and repellents to solve small-scale problems like fecal material on a moored boat yield mixed results. Probably the best overall solution is a public education program that makes people aware of the fact that there is a limit to how much of a good thing an area can support. Education and awareness make it much more likely that bans or limitations on feeding waterfowl would meet with at least some compliance. These actions, combined with habitat modification, such as the elimination of aerators to keep water open during the winter, should help reduce problems caused by large concentrations of ducks and geese.

Mute Swans are in a class by themselves as urban waterfowl. Despite their beauty and emotional appeal, they are considered an ecological time bomb by most waterfowl biologists and wetland ecologists. During the 1950s there were only 200–300 Mute Swans in the Atlantic Flyway. Some states have seen annual increases of 30–40%, and the Flyway population is now estimated at over 6,000 swans. This may not seem like many swans over such a large area, but remember that they are very large (up to 30 pounds), long-lived birds (up to 50 years) that concentrate in ecologically fragile coastal ponds and marshes where they contribute additional stress to an already stressed coastal habitat. The February–March 1989 issue of *National Wildlife Magazine* carried a fascinating story on Mute Swan problems and solutions on the east coast.

Mute Swans destroy aquatic plant life (including damage to commercial interests in cranberry bogs), harass and even kill native waterfowl, and aggressively attack humans, especially near nests. I can attest to that. I recall being attacked by a pair of Mute Swans as I canoed across a small New Hampshire millpond years ago. As those huge birds rushed across the water at me with outstretched wings, I recall portions of my childhood flashing before my eyes!

The Wisconsin Mute Swan population is still small, estimated to be 150–200 birds. About 100 are concentrated in southeastern Wisconsin, especially around several lakes in Waukesha County. Another 35–50 birds occupy marshes and ponds in northwestern Wisconsin around Ashland. Residents of these areas are very protective of their swans, and there have been few complaints from the public. However, as Wisconsin embarks on an ambitious and expensive program to restore the native Trumpeter Swan to its former habitat, exotic Mute Swan populations are likely to become more of an issue.

Several eastern biologists who have worked with Mute Swans for years advise that control should be initiated be-

fore a population gets out of hand. Activities in eastern states ranges from none at all or even indirect protection, to an intensive program to shake eggs (eliminating reproduction), to the elimination of adult swans. Given differences of opinion and public opposition to lethal control, it will be interesting to see what the future holds for Mute Swans through the United States and particularly in Wisconsin.

Waterfowl are likely to remain an important component of our backyard bird community, especially in some urban and suburban settings. They will continue to provide recreational opportunity and enjoyment, but it should be clear that ducks, geese, and swans the urban environment are a mixed blessing. Perhaps, in light of persistent drought conditions in much of our prime duck range, we should be thankful there is one place where they seem to be thriving.

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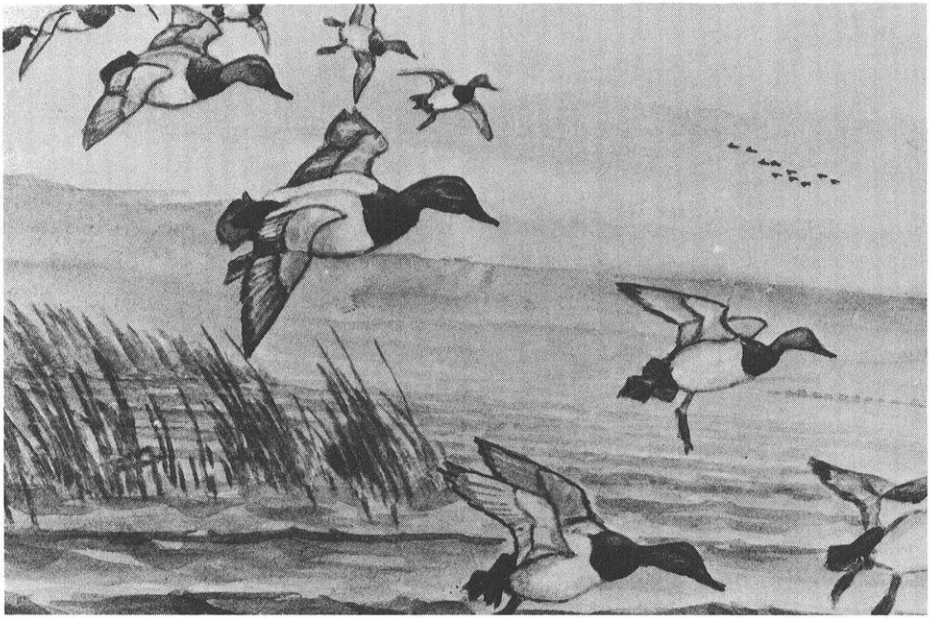

Redheads *by Jonathan Wilde*

Biodiversity Issues: Do They Involve Wisconsin Birds?

by Stanley A. Temple

In recent years there has been growing concern about the preservation of biological diversity—or biodiversity—in Wisconsin as well as the rest of the world (Wolf 1987, Wilson 1988). The issue reached a peak in Wisconsin when the U.S. Forest Service issued plans for the future management of National Forests in the state. Many environmentalists felt that these management plans failed to safeguard the natural biodiversity of the National Forest lands and the State of Wisconsin, as a whole. An ongoing dialogue between concerned parties and legal action have catapulted preservation of biodiversity onto center stage as a major environmental issue of our times. What is biodiversity and is preserving it an issue with which Wisconsin ornithologists should be concerned?

What is Biodiversity?

Biodiversity is the cumulative variety that characterizes life on earth. It is basically a measure of how many different types of "things" comprise the living components of our world. The "things" that are usually measured fall into three categories: genetic diversity which is revealed as the individual variations within species and between different species, species diversity which is reflected in the number of species that occur on a particular area, and community diversity which is revealed as the variations in the types of species that are found in different regions or ecosystems.

Genetic diversity is a characteristic of living organisms. If you were to closely examine individual Eastern Screech Owls, for example, you would find that they differed from one another in a number of ways. Some might be the result of age or various things that had happened during the bird's life, but most would be the result of the individual's genetic constitution. Some individual owls, for example, have inherited genes for red coloration from their parents, whereas others inherited genes for gray coloration. There are many other differences between individuals that are caused by their genetic constitution or genotype, and since birds rarely produce "identical twins," each bird has slightly different genotype than the other

members of its species. Sometimes this genetic variation between individuals is related to where the bird lives, and we describe the birds as being of different subspecies because of these differences. Sandhill Cranes from the far northern portions of the species' range have genes for small body size, and we call them Lesser Sandhill Cranes. Cranes from further south have genes for large body size, and we call them Greater Sandhill Cranes.

All birds show these types of genetic variation within species, but there is also even greater genetic variation between different species. The cumulative genetic diversity of birds is the sum of all the unique genetic variations within and between species. These variations are the result of the process of evolution.

Species diversity is a conspicuous feature of the earthly landscape. Each particular place on earth has a different assemblage of species that occurs there. Different places have different numbers of species and different types of species. There are more bird species in a square mile in Wisconsin, for example, than in a similar-sized area of Alaska. Even within local areas, differences in species diversity occur. In southern Wisconsin there are more bird species in a square mile of deciduous forest than in a square mile of corn field.

There are nearly 9,000 species of birds in the world. The greatest avian species diversity on earth almost certainly occurs in the tropical forests of South America where hundreds of species can be found in relatively small areas, and nearly one-fifth of the world's bird species can be found in a single country, like Colombia.

No matter where you sample avian species diversity, however, there is a strong relationship between species diversity and the size of the area on which you measure it. The larger the area sampled, regardless of where you are on earth, the greater will be the diversity of species recorded. There are, for example, almost four times as many bird species in a 1,000-acre deciduous forest in Wisconsin than in a 10-acre forest.

Species diversity is correlated not only with area but with many other features of the landscape, and a general pattern emerges. Species diversity tends to be highest in areas that feature a complex variety of habitats. There will, for example, be more bird species in a township composed of a mixture of forest, grasslands, and wetland habitats than there will be in a township dominated by a single habitat.

Community diversity—or ecosystem diversity, as it is also called—is the highest level of biodiversity. It has to do with variations in the types of organisms that are found together—and hence are part of the ecological community—at different places. Obviously as you visit different locations there are different communities and types of species to be found. The bird community of a Wisconsin grassland or prairie is composed of different species than the bird community of a deciduous forest, and only a few species would be part of both communities.

Variation between communities also occurs at a local scale. The bird community of a young forest stand is different from the bird community of a more mature forest of the same type. You would expect to find fewer bird species breeding in a 5-year-old aspen forest than in a 50-year-old stand.

Genetic diversity, species diversity and community diversity encompass the rich variety of life on earth. Loss of biodiversity in any of its three major components diminishes the overall diversity of life. Furthermore, the loss of some types of diversity may be irreversible. The extinction of a species permanently and irrevocably reduces biodiversity (Ehrlich and Ehrlich 1981). The species is lost, the unique genetic information the species carried is lost, and the community in which the species lived is deprived of a member.

How is Biodiversity Threatened?

In today's world the threats to biodiversity are great (Myers 1979, Ehrlich and Ehrlich 1981). Since life began some 3.5 billion years ago biodiversity has been maintained through a dynamic balance between evolution and extinction. New species evolve, new genetic information results from changes in an organism's DNA, and communities develop in response to changes in the physical environment. At the same time species go extinct, unique genetic material is lost, and communities undergo changes as the earth's environment changes.

Today, the balance has been shifted by human activities, and the overall diversity of life is definitely being reduced. This reduction affects birds as well as other organisms. In recent centuries birds have been going extinct at an unprecedented rate (Hoage 1986). Since 1680, when the Dodo became extinct, bird species have disappeared at a rate of approximately one species every 3.5 years. Based on the growing number of endangered birds that are now threatened with extinction, it is estimated that the extinction rate for birds will reach one species lost every 6 months by the year 2000.

The loss of all these avian species obviously reduces the world's diversity of birds. Furthermore, many of the extinct and endangered birds have unique characteristics shared by no other birds. The genetic basis for those unique characters is lost when an extinction occurs or when a species becomes so rare that its genetic diversity is diminished (Office of Technology Assessment 1987). When habitats are destroyed or altered by human activities, the diversity of the landscape is reduced and biotic communities that include birds are lost or changed.

Biodiversity in Wisconsin

Wisconsin can be considered a microcosm of the rest of the world when it comes to biodiversity concerns. The species diversity of the State has been diminished by the extinction or extirpation of dozens of species. It has also been augmented by introductions of exotic organisms and the spread of other species. Few, however, would conclude that the losses of birds such as the Passenger Pigeon or Trumpeter Swan have been satisfactorily replaced by the addition of Rock Doves or Mute Swans!

On a more local scale in Wisconsin, losses of species diversity have been even greater. Greater Prairie-chickens and Sharp-tailed Grouse, for example, no longer occur in southern Wisconsin, where native prairies and oak openings formerly were the main habitats of these species. Birds that require extensive tracts of habitat are being eliminated from regions of the state where habitat fragmentation has resulted in habitat patches too small and

isolated to sustain populations. Furthermore, fragmentation now threatens birds in parts of the state where extensive tracts of habitat exist, such as in the forests of northern Wisconsin.

The diversity of communities in the State is threatened by the almost total loss of certain types of habitats. Oak openings are all but gone from Wisconsin, tallgrass prairies are reduced to a few tiny remnants, older mature stands of forests have given way to younger second growth forests subject to short rotation forestry practices, and wetlands have been greatly reduced by draining. The diversity of such habitats across the landscape has been replaced by the reduced diversity of agriculture, suburbs and other intensely used lands.

The genetic diversity of some species in Wisconsin has been reduced. Greater Prairie-chickens, for example, are now isolated in small populations that are cut off from other populations by severe fragmentation of grassland habitats. In such small isolated populations genetic variation is steadily lost.

What Should Ornithologists Do?

Aldo Leopold produced one of the most quotable statements on how society should react to threats to biodiversity. He observed that the first rule of intelligent tinkering is to save all the parts. Saving all the parts of biodiversity will take some special efforts on the part of conservationists. Unless we make a concerted effort to prevent losses of biodiversity there will be further erosion.

Wisconsin ornithologists should be concerned about biodiversity, they should take stock of the biological diversity in their local environment and be aware of human activities that might threaten that diversity. They should also be aware of how local threats to diversity relate to regional and global issues.

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The Winter Season: 1988

by Kenneth I. Lange

The winter of 1988–89 was moderate overall, with less extreme weather than usual. However, the average monthly temperatures did vary considerably: December was near normal, January 8–12° above normal, and February below normal, prompting Maybelle Hardy in Price County to characterize this winter as having "Spring in January and Alaska in February."

Much of the state had a 3–6 inch snow cover at the beginning of the period. In southern Wisconsin freezing rain with the snowfall of 26 December encrusted fields, which remained so until the thaw of mid January. Snowfall totals were below normal for all 3 months of the period, and as a result frost depths averaged above normal.

Although a number of contributors regarded this winter as "dull" and "quiet," with relatively few birds, there were, as usual, notable highlights. One was a concentration of raptors in approximately a 4-square-mile area along the east side of Horicon National Wildlife Refuge in Dodge County, where from 28 January until at least February 18th, contributors reported up to 19 Rough-legged Hawks, 17 Red-tailed Hawks, 4 American Kestrels, 12 Northern Harriers, an immature Golden Eagle, and 3 Short-eared Owls. High numbers of raptors, corresponding to high numbers of voles, have been reported for Horicon Marsh previously (*Passenger Pigeon* 47:58–59). The Sheas reported another raptor concentration on 19 February in Sauk County along the Wisconsin River between the Highway 12 bridge and Ferry Bluff, a river distance of approximately 5 miles: 71 Bald Eagles (17 adults and 54 subadults), 2 Rough-legged Hawks, 1 Northern Harrier, and an adult Cooper's Hawk.

Other highlights included a relatively high number of Merlins; an invasion of Great Gray Owls into Douglas County (and northeastern Minnesota); 2 Boreal Owls; 8 species of gulls, including Wisconsin's third Lesser Black-backed Gull and first documented winter record of the Ivory Gull; and a high number of Carolina Wrens. See the species accounts for details.

Winter finches, with the exception of the American Goldfinch, were in

low numbers, or absent. Presumably they failed to irrupt because of an adequate food supply on or near their boreal nesting grounds.

Other species of interest were the Mourning Dove, with especially high numbers in Eau Claire and La Crosse counties, and the Red-breasted Nuthatch and Brown Creeper which were present in normal numbers.

Late fall migrations were reported for the Tundra Swan and Canada Goose. Early spring migrations occurred in the following species: Canada Goose; Turkey Vulture, 26 February in Columbia County; Bald Eagle, February; Northern Harrier, February; Sharp-shinned Hawk, 18–20 February in southern and central Wisconsin; Cooper's Hawk, latter part of February in southern Wisconsin; Red-shouldered Hawk; Rough-legged Hawk, February; American Kestrel, 27 February in Milwaukee County; American Coot, 25 February in Dane County; Herring Gull; Horned Lark, mainly 4–28 February in southern, western and eastern Wisconsin; Cedar Waxwing, late February in southern Wisconsin; and Red-winged Blackbird.

A total of 77 people contributed records covering 59 counties. The following 13 counties, scattered throughout the state, were not covered: Adams, Calumet, Crawford, Door, Florence, Green, Kenosha, Kewaunee, Lincoln, Marquette, Menominee, Pepin, and Rock. The following common statewide species are not included in the individual species reports: Ruffed Grouse, Great Horned Owl, Barned Owl, Downy Woodpecker, Hairy Woodpecker, Blue Jay, American Crow, Black-capped Chickadee, and White-breasted Nuthatch.

Reports (1 December 1988–28 February 1989)

Common Loon.—One in Dane County, 11 December (Robbins), and one frozen in ice, probably sick, Dodge County, 12 December (Diehl).

Pied-billed Grebe.—One on the Woodland Dunes SE Christmas Bird Count, Manitowoc County, 18 December.

Horned Grebe.—One on Devil's Lake, Sauk County, 6 December (Swengel).

Great Blue Heron.—After the Christmas Bird Counts, single birds in the following localities: the Ashland area, 12–26 January (Verch); Forest County, 1 January (Reardon); Trempeleau County, 28 January, later (17 February) found dead (Hunter); Sheboygan County, 20 February (JLB); and throughout the period along a spring-fed creek in Sauk County (Swengel).

Tundra Swan.—Migrants in December, especially from the 10th through the 15th (many observers). Numbers peaked (2000) in Trempealeau County on 4 December (Hunter). Found on 5 Christmas Bird Counts. Still in LaCrosse County, 18–19 January (Lesher), and Juneau County, 28 January (Richter).

Mute Swan.—Including the Christmas Bird Counts, reported in 6 southern and eastern counties, and Portage, Shawano, and Douglas counties (many observers).

Snow Goose.—After the Christmas Bird Counts, 1–2 birds in the following counties: Milwaukee, 3 January (Sunby); Dane, throughout the period (Hilsenhoff); Portage, throughout the period (Korducki); and St. Croix, 29 January (Smiths).

Canada Goose.—Migrating from 27 December–12 January (many observers). Throughout the period in 14 counties, from St. Croix to Sauk to Manitowoc (many observers).

Wood Duck.—After the Christmas Bird Counts, records for Milwaukee, Jefferson, Dane,

Trempealeau, Chippewa, St. Croix, and Shawano counties (many observers).

Green-winged Teal.—One in Milwaukee County, 31 January (Robbins).

American Black Duck.—Throughout the period in approximately 15 counties scattered throughout the state (many observers).

Mallard.—Throughout the period in approximately 22 counties scattered throughout the state (many observers).

Northern Pintail.—Throughout the period in Milwaukee County (many observers), and Portage County, a female below the McMill Pond Dam (Peterson).

Northern Shoveler.—Throughout the period in Dane County (many observers); maximum 56, 14 January (Hilsenhoff).

Gadwall.—Throughout the period in Dane County (many observers), maximum 440, 14 January (Hilsenhoff), and Chippewa County, 1 (Polk).

American Wigeon.—Throughout the period in Dane County (many observers), maximum 4 (Hilsenhoff), and Milwaukee County (many observers). Two in Ozaukee County, 2 February (Frank).

Canvasback.—Only one report after the Christmas Bird Counts: Walworth County, through 29 January, maximum 14, 15 January (Parsons).

Redhead.—After the Christmas Bird Counts: 14–15 January, 6, Walworth County (Parsons), and throughout the period, Milwaukee County (many observers).

Ring-necked Duck.—After the Christmas Bird Counts: Walworth County, 14 January–12 February, maximum 25, 14 January (Parsons); Milwaukee County, throughout the period (many observers); Ozaukee County, 2 January–2 February (Frank); Dane County, 26 February, 1 (Ashman); and Shawano County, a male below the Caroline dam (Peterson).

Greater Scaup.—Throughout the period in Milwaukee County (many observers), and (?) Ozaukee County (Frank).

Lesser Scaup.—After 1 January, found only in Walworth County, 5 January–9 February (Parsons), and Milwaukee County, throughout the period (Diehl).

Harlequin Duck.—Ozaukee County, 16 December, 2 (Swengel), and Sheboygan County, 31 December, 2 (Brassers).

Oldsquaw.—Throughout the period in Lake Michigan from Kenosha to Door counties (many observers).

Black Scoter.—One on Devil's Lake, Sauk County, 1 December (Swengel).

Surf Scoter.—One on the Racine Christmas Bird Count.

White-winged Scoter.—On the Milwaukee, Newburg, and Ephraim Christmas Bird Counts, plus an immature in Manitowoc County, 14 January (Peterson).

Common Goldeneye.—Throughout the period in the following localities: Lake Michigan from Milwaukee to Marinette counties; the Wisconsin River in Dane, Sauk, Portage, and Marathon counties; Winnebago County; Eau Claire, Chippewa, Dunn, and St. Croix counties; and the Ashland area (many observers). Also in Walworth County, 5–29 January, maximum 50, 5 January (Parsons).

Bufflehead.—Throughout the period in Lake Michigan from Milwaukee to Sheboygan counties (many observers), and Portage County, a female below the McMill Pond Dam (Peterson). Also in Walworth County, 5–29 January, maximum 10, 5 January (Parsons).

Hooded Merganser.—Throughout the period in Milwaukee County (many observers), and Portage County, a female below the McMill Pond Dam (Peterson). Also in Dane County, 20 January (Robbins).

Common Merganser.—Throughout the period in the following localities: Lake Michigan from Milwaukee to Manitowoc counties; the Wisconsin River in Dane and Sauk counties; and

Winnebago County (many observers). Also January records for Walworth, Green Lake, Shawano, and Douglas Counties (many observers).

Red-breasted Merganser.—Throughout the period in Lake Michigan from Milwaukee to Manitowoc counties (many observers).

Ruddy Duck.—January records for Walworth, Milwaukee, and Ozaukee counties (many observers).

Turkey Vulture.—15 January, one in Waupaca County, and 26 February, one in Columbia County (Korducki).

Osprey.—27 January, 1, Trempealeau County (Hunter).

Bald Eagle.—Overwintered as far north as Douglas and Bayfield counties, the Ashland area, Price County (?), Marathon County, and Marinette County (many observers). Jim Baughman noted this species in Vilas County on 25 January--an early migrant? One in Forest County, 26 February (Reardon), undoubtedly a migrant. The peak in migration for southern Wisconsin, e.g., Dane and Sauk counties, from 10–19 February (Lison/Ottinger; Sheas).

Northern Harrier.—More records than usual. Apparently a fair number of individuals overwintered, or attempted to do so, moving from one vole concentration, e.g., the east side of Horicon Marsh (see the introduction), to another. Migrants in Sauk, Fond du Lac, and Sheboygan counties, 15–28 February (many observers).

Sharp-shinned Hawk.—January and February records for 15 counties, north to Polk, Taylor, Marathon, and Marinette counties (many observers). Migrants, 18–20 February, southern and central Wisconsin (many observers).

Cooper's Hawk.—January and February records for 14 counties, north to Eau Claire, Clark, Marathon, Shawano, and Marinette counties (many observers). Migrants, latter part of February, southern Wisconsin (many observers).

Northern Goshawk.—After the Christmas Bird Counts, records for 9 counties, most in northern Wisconsin.

Red-shouldered Hawk.—February records for Ozaukee, Sheboygan, Dane, Columbia, Sauk, Monroe, Eau Claire, and St. Croix counties (many observers).

Red-tailed Hawk.—Northward to the following counties: Marinette, through 17 December (Lindberg); Oconto, throughout the period (Noms); Marathon, throughout the period (Belter); Taylor, 17–18 December (Offord; PR); and Douglas County, throughout the period (RJ).

Rough-legged Hawk.—The greatest concentration of this hawk was at Horicon Marsh (see introduction). Migrants in February (many observers).

Golden Eagle.—7 December, an immature in Sauk County (Swengel); 18 December, one on the Lake Geneva Christmas Bird Count; 19 December, an immature on the Bridgeport Christmas Bird Count; 2 January, 2 on the Nelson Christmas Bird Count; 20 and 28 January, 1–2, Jackson County (Tessen; Semo); 22 January, 1, Eau Claire County (Tessen); 4–11 February, an immature at Horicon Marsh, Dodge County (Lison/Ottinger; Brassers); and throughout the period in Monroe County, at least 3 birds—2 adults and an immature (Epstein).

American Kestrel.—Northward to (and at least into January) in the following localities: Oconto County, throughout the period (Noms); Taylor County, 5 January (PR); Polk County, throughout the period (Hudick); the Ashland area, 30 January, 1 (Verch); and Douglas County, 6 January, 1 (RJ). Zehner found 3, undoubtedly migrants, in Milwaukee County, 27 February.

Merlin.—3 December, 1, Manitowoc County (Sontag); 2 December, 1, Dane County (Sheas), and 17 December, 2, Madison Christmas Bird Count; 18 December, 1, Fond du Lac Christmas Bird Count; 19 December, an adult male on the Bridgeport Christmas Bird Count (documented by the Sheas); 2 February, 1, Douglas County (RJ); and 23 February, 1, Eau Claire County (Polk).

Gray Partridge.—Including the Christmas Bird Counts, records for these counties: Walworth, Ozaukee, Washington, Sheboygan, Manitowoc, Fond du Lac, Columbia, and Dane (many observers).

Ring-necked Pheasant.—Northernmost

records: Hurley, Iron County, throughout the period (Erickson), and Douglas County, throughout the period (RJ).

Greater Prairie-Chicken.—One appeared in Princeton, Green Lake County, on the high school grounds in late December and survived there until 26 February, when it was found dead in the road (Schultz). Also in Portage (Soulen), Marathon (Belter), Clark (LR), and Taylor (via PR) counties.

Sharp-tailed Grouse.—Records for these counties: Taylor (PR), Burnett (Soulen), and Douglas (Semo).

Wild Turkey.—Hale reported up to 14 in Shorewood Hills, west of Rock Lake, in Jefferson County; presumably these came from a January 1988 Wisconsin DNR release at Goose Lake in Dane County.

Northern Bobwhite.—Including the Christmas Bird Counts, records for these counties: Kenosha, Ozaukee, Grant, Richland, Sauk, Monroe, Jackson, Dunn, and St. Croix (many observers). The highest count was 26 in Richland County, 6 January (Duerksen).

American Coot.—Throughout the period in the following counties: Walworth (Parsons); Milwaukee (many observers); Dane (many observers); Winnabago, 1 (Ziebell); and Eau Claire, 3 (Polk). Maximum of 135 in Dane County, 25 February (Hilsenhoff).

Sandhill Crane.—1 December, 10, Columbia County (Martin); 19 December, one on the Stevens Point Christmas Bird Count; and 26 December, an injured bird in Sheboygan County (Diehl).

Killdeer.—After the Christmas Bird Counts, one record: 29 January, Dane County (Robbins).

Common Snipe.—Throughout the period in the following counties: Sauk, several along a spring-fed creek (Swengel), and probably Monroe (Epstein) and Eau Claire (Polk). January records for Dane, Columbia, and Sheboygan counties (Sheas; Swengel; JLB).

Bonaparte's Gull.—112 on the Kenosha Christmas Bird Count; no later records.

Ring-billed Gull.—Throughout the period in Lake Michigan from Milwaukee to Manitowoc counties (many observers). January records for Dane, Sauk, and Green Lake counties (Robbins; Swengel; Schultz).

Herring Gull.—Throughout the period in Lake Michigan from Milwaukee to Manitowoc counties (many observers). Tessen estimated 1000 in the Fox River in Winnebago and Outagamie counties, 1 January. Other January records: Walworth County (Parsons), Green Lake County (Schultz), and Bayfield County (5 migrating east over Cornucopia just ahead of a cold front on the 31st (Swengel). In February, noted on the 10th in Dane County (Lison/Ottinger), the 17th in Winnebago County (Ziebell), and the 19th in Sauk County (Sheas); migrants?

Thayer's Gull.—At least one in Milwaukee County throughout the period (many observers). One in Outagamie County, 1 January (Tessen).

Lesser Black-backed Gull.—This species was first recorded in Wisconsin in March 1984, with a second sighting in October and November of the same year. Wisconsin's third lesser Black-backed, a bird along the Wisconsin River in Sauk and Columbia counties from 14–30 December, was documented by Karl Legler, who discovered it, and Al Shea.

Glaucous Gull.—Including the Christmas Bird Counts, records for these counties: Milwaukee, Sauk, Winnebago, Manitowoc, Kewaunee, Brown, Bayfield, and Douglas. The maximum count was 13 in Douglas County, 1 January (RJ).

Great Black-backed Gull.—One on the Milwaukee Christmas Bird Count, and (Sontag) two 3rd winter birds in Manitowoc County, 7 January.

Ivory Gull.—One at Cedar Lake in St. Croix County, 7–10 January, is Wisconsin's first documented winter record of this arctic species; first noted by Ted Schmidt and Irene E. Schmidt. Documented by T. Schmidt and also J. D. Merchak, J. H. Smith and D. B. Johnson.

Rock Dove.—Northward to these counties: Marinette, throughout the period (Lindberg); Price, throughout the period (Hardy); Bayfield, 2 on a barn roof in rural Port Wing during the period (Erickson); and Douglas, throughout the

period, as usual, in the Superior harbor (Erickson).

Mourning Dove.—Northward to these counties: Marinette, throughout the period (Lindberg); Vilas, throughout the period (JB); and Douglas, 6 January–8 February (RJ). High numbers in Eau Claire and LaCrosse counties (Polk; Lesher).

Common Barn-Owl.—One died 1–2 days after it was found in early December in Vilas County, and another was found dead, 6 February, in Marinette County (Erdman).

Eastern Screech-Owl.—Including the Christmas Bird Counts, found in 20 counties, north to Brown, Oconto, Taylor, and LaCrosse counties (many observers).

Snowy Owl.—Including the Christmas Bird Counts, found in 11 counties. Still in Fond du Lac County, Winnebago County, and the Ashland area at the end of the period (JLB; Ziebell; Verch).

Great Gray Owl.—An invasion into Douglas County (and northeastern Minnesota). Noted in Douglas County regularly from 6 January–25 February, with up to 4 found on a single day (RJ).

Long-eared Owl.—After the Christmas Bird Counts, one report: a bird in St. Croix County, 19 January (Smiths).

Short-eared Owl.—After the Christmas Bird Counts, these reports: Horicon Marsh, Dodge County, maximum 3, probably throughout the period (many observers; see introduction); 14 January, Fond du Lac County (JLB); and 15–31 January, Oconto County, 2 (Noms).

Boreal Owl.—One in Bayfield County, 28 February (first identified by Tom Doolittle; documented by Verch). This bird was captured and found to be completely lacking in fatty deposits (Verch). Another was found dead in the City of Eau Claire, Eau Claire County, 20 February; it might have flown into a window (Polk).

Northern Saw-whet Owl.—Including the Christmas Bird Counts, records for these counties: Walworth, Milwaukee, Dane, Sauk, Jackson, Buffalo, and Oconto (many observers).

Belted Kingfisher.—Single birds throughout the period in Manitowoc, Dane, Richland, Marathon, Trempealeau, and Polk counties (many observers).

Red-headed Woodpecker.—Relatively scarce. After the Christmas Bird Counts, reported for these counties: Walworth, Dane, Sauk, Columbia, Winnebago, Shawano, Monroe, and Trempealeau (many observers).

Red-bellied Woodpecker.—Northward to (and throughout the period) in these counties: Marinette (Lindberg), Price (Hardy), and Barron (Goff).

Yellow-bellied Sapsucker.—After the Christmas Bird Counts, just one bird in Milwaukee County, 17 January (Korducki).

Black-backed Woodpecker.—Douglas County (Semo; Sheas), Sawyer County (Merkel), Vilas County (JB), and Forest County (JLB).

Northern Flicker.—Throughout the period in these counties: Milwaukee (many observers), Ozaukee (Frank), and Clark (LR). Noteworthy is the presence of this species in Port Wing, Bayfield County, in January (Erickson). February records for Richland County (Duerksen), Dane County (Ashman), and Outagamie County (Lison/Ottinger). Generally low numbers.

Pileated Woodpecker.—One in Lafayette County, 28 January (JLB), makes one wonder if this species has been expanding its range; if so, it has not been documented.

Eastern Phoebe.—One on the Fort Atkinson Christmas Bird Count, only the third Wisconsin Christmas Bird Count record.

Horned Lark.—Throughout the period in Walworth, Dane, Sauk, Richland, Monroe, St. Croix (?), and Winnebago counties (many observers). Migrants northward to the Ashland area by 24 February (Verch); peak numbers generally in February, rarely late January (many observers).

Gray Jay.—Including the Christmas Bird Counts, records for these counties: Burnett, Douglas, Bayfield, Sawyer, Price, Taylor, Vilas, Oneida, Forest (many observers).

Common Raven.—Southernmost records for Monroe County (Epstein), and Iowa County, one soaring south of the Wisconsin River near Lone Rock, 10 January (Robbins).

Boreal Chickadee.—Including the Christmas Bird Counts, found in the following counties: Vilas, Oneida, Price, Sawyer, and Bayfield (many observers); also in the Ashland area (Verch).

Tufted Titmouse.—Including the Christmas Bird Counts, records for 18 counties, approximately south of a line from Polk to Taylor to Adams to Columbia to Waukesha counties (many observers).

Red-breasted Nuthatch.—Throughout the state, generally in normal numbers.

White-breasted Nuthatch.—Throughout the period in such northern counties as Marinette (Lindberg), Vilas (JB), Iron, Bayfield, and Douglas (Erickson).

Brown Creeper.—Reported in approximately 10 southern counties, plus late winter records from these northern counties: Sawyer, through 21 February (Merkel); Price, 1, throughout the period (Hardy); Vilas, 25 February–end of period (JB). Generally normal numbers.

Carolina Wren.—An unusually high number of records. Including the Christmas Bird Counts, found in Rock, Walworth, Milwaukee, Ozaukee, and Dane counties (many observers).

Winter Wren.—After the Christmas Bird Counts, only one record, an individual in Trempealeau County, 31 January (Hunter).

Golden-crowned Kinglet.—After the Christmas Bird Counts, reported in these counties: Milwaukee, 1 January (Frank); Ozaukee, 7 January (Mueller); Dane, throughout the period (Ashman); and Sauk, throughout the period in a large conifer plantation (Lange).

Eastern Bluebird.—16 January, one at a heated bird bath in rural Sauk County (JBS).

Townsend's Solitaire.—One on the Green Bay Christmas Bird Count.

Hermit Thrush.—After 1 January, found only in Manitowoc County, 2–6 February (Sontag).

American Robin.—Throughout the period in these localities: Dane County (Ashman), Green Lake County (Schultz), Milwaukee County (many observers), Sheboygan County (Brassers), Manitowoc County (Sontag), Shawano County (Peterson), Portage County (Semo), Wood County (Merkel), Clark County (LR), and the Ashland area (Verch).

Varied Thrush.—Including the Christmas Bird Counts, records for these counties: Milwaukee, Columbia, Sauk, Clark, Taylor, Chippewa, Polk, and Washburn (many observers).

Gray Catbird.—One on the Milwaukee Christmas Bird Count and one on the Beloit Christmas Bird Count.

Brown Thrasher.—Single birds on 4 Christmas Bird Counts. Later records: one throughout the period at a feeder in LaCrosse County (Lesher), and one in Dane County, 25 February (Hansen).

Bohemian Waxwing.—Generally below normal numbers, with just one flock of over 100 reported, a group of 180 in Polk County, 26 February (Hudick). Hardy reported a flock of up to approximately 80, with Cedar Waxwings, feeding on crabapples in Park Falls, Price County. Southernmost records from Wood and Portage counties.

Cedar Waxwing.—Generally below normal numbers. Maximum numbers in several southern counties in February.

Northern Shrike.—Reported in 34 counties scattered throughout the state. Numbers average or slightly above average.

European Starling.—Northward to these counties: Marinette, throughout the period (Lindberg); Vilas, 9 December (Reardon); Price, throughout the period (Hardy); Washburn, throughout the period (Erickson), and (Superior) Douglas (Erickson).

Yellow-rumped Warbler.—No records after the Christmas Bird Count.

Northern Cardinal.—Northward to and throughout the period in these counties: Marinette (Lindberg); Vilas, a female at a feeder in Eagle River (JB); and at feeders in Washburn, Bayfield, and Douglas counties (Erickson).

Rufous-sided Towhee.—Adams and Newburg Christmas Bird Counts.

American Tree Sparrow.—Northward to these counties: Marinette, throughout the period (Lindberg); Price, 26 December, 1 (Hardy) and Barron, throughout the period (Goff).

Chipping Sparrow.—The only record: one at a feeder in Mequon, Ozaukee County, 1–14 January (Frank).

Field Sparrow.—One on the Waukesha Christmas Bird Count, and one on the Trempealeau Christmas Bird Count. The latter bird remained through 7 January (Hunter).

Fox Sparrow.—A total of 6 on the Shawano, Madison, and Newburg Christmas Bird Counts.

Song Sparrow.—Throughout the period in Sauk County (many observers), and Manitowoc County (Sontag). January and February records for 4 additional southern counties (many observers).

Lincoln's Sparrow.—Two on the Newburg Christmas Bird Count, and (Sontag) two in Manitowoc County, 5 February.

Swamp Sparrow.—After the Christmas Bird Counts, just one record: 20 February, 1, Sauk County (Lange).

White-throated Sparrow.—Single birds throughout the period in Dane (Hilsenhoff) and Outagamie (Tessen) counties. January and February records for 3 additional southern counties (many observers).

White-crowned Sparrow.—Three on the Racine Christmas Bird Count.

Harris' Sparrow.—Two on the Solon Springs Christmas Bird Count; an immature in Shawano County, 1 December and 18 January (Peterson); and one at a feeder in Chippewa County in February (via Polk).

Dark-eyed Junco.—Northward to these counties: Marinette, throughout the period (Lindberg); Bayfield (Port Wing), beginning about 23 February (Erickson); and Douglas (Superior), throughout the period (Erickson).

Lapland Longspur.—After the Christmas Bird Counts, records for 7 southern counties, plus Clark County, 3–24 February (LR), and Taylor County, 21 January (PR). The largest flocks (100–300) in these counties: Sauk, 3 February (Leglers); Columbia, 8 February (Martin); and Outagamie, 4 February (Tessen).

Snow Bunting.—After the Christmas Bird Counts, records for 27 counties, with flock sizes of 100 and more (up to 500) in Columbia, Winnebago, Wood, Marathon, and Shawano (many observers).

Red-winged Blackbird.—After the Christmas Bird Counts, from 1–20 on various dates in Milwaukee, Dodge, Dane, and Dunn counties (many observers). One in St. Croix County, 27 February (Smiths); migrant?

Rusty Blackbird.—After the Christmas Bird Counts, records for these counties: Dodge, 28 January (Sheas); Waupaca, 4 February, 1 (Tessen); Clark, throughout the period (LR); and (Port Wing) Bayfield, 2 January, 1 at a feeder (Erickson).

Brewer's Blackbird.—Single birds on the Oconomowoc and Stevens Point Christmas Bird Counts.

Common Grackle.—Throughout the period in Dane County (many observers). January records for Manitowoc (Sontag), Portage (Korducki; Semo), and Douglas (Sunby) counties, and February records for Ozaukee County (Frank), Sauk County (Leglers), Marinette County (Lindberg), and the Ashland area (Verch).

Brown-headed Cowbird.—After the Christmas Bird Counts, records for these counties: Walworth, 6–8 January, 1 (Parsons); Jefferson, 8 January–23 February, maximum 3, 8 January (Hale); Ozaukee, 2 January, 1 (Frank); and Sauk, 3 January (Leglers).

Pine Grosbeak.—After the Christmas Bird Counts, records for 6 northern counties. The maximum number reported was 25 in Bayfield County, 3 January (Swengel).

Purple Finch.—Generally below normal numbers. The maximum number reported was 50 in Shawano County, 10 February (Peterson).

House Finch.—Including the Christmas Bird Counts, records for these counties: LaCrosse, Shawano, Brown, Manitowoc, Winnebago, Waushara, Fond du Lac, Sheboygan, Ozaukee, Washington, Sauk, Dane, Jefferson, Waukesha, Milwaukee, and Racine (many observers). Spring song in Dane County first heard, 29 January (Robbins).

Red Crossbill.—Including the Christmas Bird Counts, records for 6 northern counties (many observers), plus Rock County (6 on the Beloit Christmas Bird Count) and Milwaukee County, 13 February (Mueller). Maximum numbers were 15 on the Phelps and the Spencer Christmas Bird Counts.

White-winged Crossbill.—Including the Christmas Bird Counts, records for 11 northern counties (many observers). Maximum numbers were approximately 30–40.

Common Redpoll.—Confined to northern Wisconsin, southward to St. Croix, Chippewa, Clark, Oneida, and Marinette counties (many observers), except for 6 on the Newburg Christmas Bird Count. The only large flock (over 100) in Oneida County, 5 January (Peterson).

Pine Siskin.—Throughout the state, but below normal numbers.

American Goldfinch.—A record number on the Christmas Bird Counts. Northward to Forest, Vilas, Bayfield, and Douglas counties (many observers). The Smiths noted an influx in St. Croix County, 18–19 February.

Evening Grosbeak.—Confined to northern and central Wisconsin, except for 60 on the Poynette Christmas Bird Count and an unknown number on 2 Christmas Bird Counts in Sheboygan County. Below normal numbers, e.g., the largest flock excluding the Christmas Counts, was 37 in Price County, 25 January (Hardy).

House Sparrow.—Northward to and throughout the period in these counties: Marinette (Lindberg), Vilas (JB), Bayfield (in Port Wing; Erickson), and Douglas (in Superior; Erickson).

Eurasian Tree Sparrow.—One at a feeder near River Falls, Pierce County, 11–22 January (throughout the period?; many observers). Previously reported for Wisconsin only in March.

Eurasian Goldfinch.—One at a feeder near New London, Waupaca County, 1 February–end of the period (Miller). Most likely an escaped or released bird.

CONTRIBUTORS

Jim Anderson and Steven Petzwick, Philip Ashman, Loren W. Ayers, Jeffrey L. Baughman (JLB), Jim Baughman (JB), Daniel Belter, Marilyn Bontly, David and Margaret Brasser, Bruce Cichon, G. M. Culp and Polly Culp, Scott Diehl, Barbara Duerksen, Eric Epstein, Tom Erdman, Laura Erickson, Jim Frank, Alta Goff, Karen Etter Hale, Ellen Hansen, Maybelle Hardy, Dorothy Harmer, Bill Hilsenhoff, Joe Hudick, Thomas Hunter, David B. Johnson (DBJ), Robbye Johnson (RJ), Ada Karow, Mark Korducki, the Roland J. Kuhn family, Kenneth I. Lange, Karl and Dorothy Legler, Fred Lesher, Harold Lindberg, Peggy Lison and John Ottinger, Mark Martin, Joseph D. and Peggy Wormbier Merchak, Keith Merkel, Greg Miller, William Mueller, William Noms, Dwight Offord, Patricia Parsons, Mark Peterson, Janine Polk, Mary Jean Raile, Bill Reardon, Carol B. Richter, Leonard Risch (LR), Paul Risch (PR), Sam Robbins, John C. Robinson, Irene Schmidt and Ted E. Schmidt, Jr., Jack and Betty Schultz (JBS), Thomas Schultz, Larry Semo, Al and Sue Shea, Jerry H. and Karen Smith, Charles

Sontag, Thomas Soulen, Paul Sunby, Scott Swengel, Daryl Tessen, Dick Verch, Melvin Wierzbicki, Winnie Woodmansee, Norma Zehner, and Thomas Ziebell.

Kenneth I. Lange
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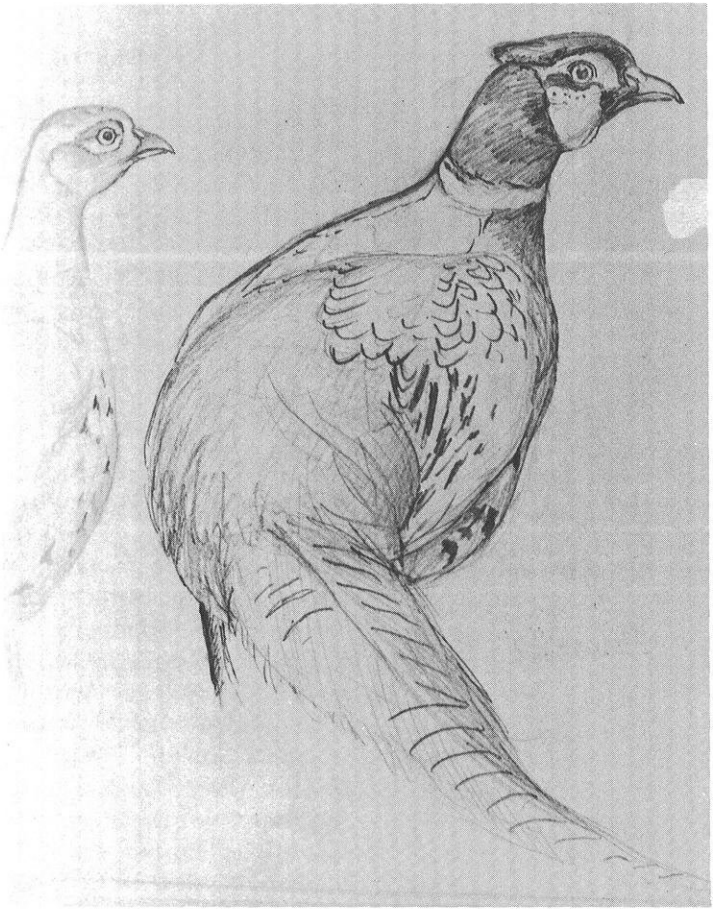


Ring-necked Pheasants *by Jonathan Wilde*

"By the Wayside"

Mandarin Duck, Ivory Gull, Thayer's Gull, Lesser Black-backed Gull, Great Black-backed Gull, Great Gray Owl, and Boreal Owl were highlights of the past winter season

MANDARIN DUCK (*Aix galericulata*)

4 January–29 February 1988, Wood County, below Wisconsin Rapids hydroelectric dam.—I observed a male and up to three female Mandarin Ducks (*Aix galericulata*) below the Wisconsin Rapids hydroelectric dam and paper mill on the Wisconsin River (T22N, R6E, Sec. 18, NE ¼ of SE ¼) from 4 January to 29 February, 1988. These ducks were usually present within a flock of up to about 75 Mallards (*Anas platyrhynchos*). Mandarin Ducks are native to eastern Asia with feral populations breeding and wintering in Great Britain and northern Europe (P. A. Johnsgard. 1978. *Ducks, geese, and swans of the world.* University of Nebraska Press. 404p.).

I observed courtship activities throughout most of this period. The female aggressively courts and initiates copulating behavior with the male (P. A. Johnsgard. 1956. *Handbook of waterfowl behavior.* Cornell University Press. 376p.). The females also chased mallards away from corn at an artificial feeding area.

Mandarin Ducks have been known to dump-nest with Wood Ducks (*Aix sponsa*) in Great Britain (C. Savage. 1952. *The mandarin duck.* Adam and Charles Black, London. 78p.) and the two species have hybridized (P. A. Johnsgard. 1968. Some putative mandarin duck hybrids. *Bulletin British Ornithological Club* 88:140–148.). Steps should perhaps be taken to prevent establishment of this exotic species along the Wisconsin River or elsewhere in the state.

I thank J. Bielefeldt for comments on this note.—*David A. Ross, Consolidated Water Power Company, Box 8050, Wisconsin Rapids, WI 54495–8050.*

IVORY GULL (*Pagophila eburneau*)

7 January 1989, St. Croix County, Star Prairie Township, southwest bay of Cedar Lake.—My mother, Irene Schmidt, and I had finished breakfast at 7:30 A.M. and were walking into the living room when we noticed a small white bird circling above the ice in the bay located SW corner of Cedar Lake. This portion of the lake is located in the township of Star Prairie in St. Croix County. After losing sight of the bird, using a Bushnell Spacemaster 45X power spotting scope, we spotted it on the ice 800 feet from the house. It looked like a gull of some type. We decided to get in my Bronco and drive out on the ice to get a better look.

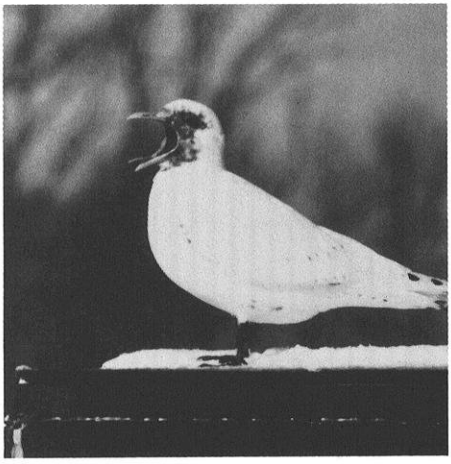


Figure 1. Ivory Gull, 10 January 1989.

We could get about thirty feet from the bird. We did this twice. It had the shape of a rock dove, but in flight the wings seemed to be longer. It had an all white body except for a dark area starting behind the eye and coming to the beak and under the chin. It had several lines of dark specks along the side of the body from front to back. Upper part of the wing above the tail had five black "v" as viewed from the side, this is when the wings are down against the body. The tail had a black band at the end and was rounded. The legs were black and the feet were black webbed with three claws on the front and a small black claw at the base of the feet coming out at a 45° angle down in direction. The beak was dark at the base, green toward the tip and yellow on the tip. Over a period of four days it fed on lake trout, perch, dead sucker minnows and hamburger we provided. It could swallow sucker minnows up to 4 to 6 inches. It swallowed a thawed piece of lake trout ½ inch thick 1½ inches in diameter in one piece. The only time we saw it with other birds is when there was a lack of humans on the ice. Four American Crows showed up and were trying to steal some of the sucker minnows left by a fisherman. We wish we could have gotten a movie film of the Ivory Gull chasing those four crows. It chased the crows into the woods at the back of the bay and in one case made the crow drop one of the sucker minnows. It was about two inches smaller than the American Crows. In flight it could make very sharp turns and movements. Someone on 9 January 1989 brought some walleye guts for the gull. The first part it worked on was the gill plates. After the run-in with the American Crows it managed to get one of the walleye guts up on the top of a nearby fish shack. That is where the hamburger and lake trout were placed, and to this day we haven't seen any of the American Crows bother what was left by the gull. We also noticed that when there was a wind out on the ice, when it would be eating it would be faced into the wind. Also in flight one could see the black band at the tip of the tail and several dark bands across the width of the wings, and a band at the trailing edge of the wings. It made several very low level noises when it was sitting on the ice, hard to describe but like a low level cry. It was about 8 feet from me, at the time and no wind blowing.—*Ted Schmidt and Irene Schmidt, Route 2 Box 97, New Richmond, WI 54017–9614.*

Thayer's Gull (*Larus thayeri*)

22 January 1989, Milwaukee County, South Shore Yacht Club area and nearby harbor.—Upon searching through the flock of Herring Gulls and Ring-billed Gulls present in the Milwaukee harbor near the South Shore Yacht Club, I found one adult Thayer's Gull, in "win-

ter" plumage. This bird was 23–24 inches in length, or approximately the same size as nearby Herring Gulls. Its head and neck were white, but heavily streaked with brown. It had a very rounded crown, in contrast with the longer, more flattened crown of nearby Herring Gulls. The iris was brown. The bill was yellow, with a red spot on the lower mandible. The bill was noticeably shallower (less deep) and shorter, and somewhat slimmer when viewed head-on than that of the Herring Gulls used for comparison. The most obvious field mark, however, was the extent of the dark grayish-black area on the lower surface of the tips of the primaries. The area in question was very small in comparison with that of the Herring Gulls I observed, and confined only to the very ends of the primaries, with a slightly smaller white area at the extreme end of each primary feather. The bird flew five or six times during the twenty or twenty-five minutes of the observation, and the dark area on the lower surface was visible as a dark line at the tips of the primaries, compared to the much more extensive dark area comprising perhaps one-eight of the length of the underwing surface on Herring Gulls. I repeatedly observed this on the Thayer's Gull when it was in flight. The lighting was perfect, and being able to readily compare this bird with numerous Herring Gulls made me certain of the identification.—*William Mueller, 1244 S. 45 St., Milwaukee, WI 53214.*

Lesser Black-backed Gull (*Larus fuscus*)

14–21 December 1988, Sauk County, Wisconsin River below dam at Prairie du Sac..—After a mid-day rain ended I decided to scan the gulls on the Wisconsin River to see if the Glaucous Gull I'd seen the day before was still there. Searching through hundreds of gulls I was startled to see, sitting in the water, the very opposite of what I was looking for, a very dark-winged gull.

Its wings and back were very dark gray, but not black. Its underparts were white. It had an extensive area of diffuse black at tip of upper wing, with no mirrors. It had a dusky gray underwing with an extensive area of diffuse black at wing-tip extending to form a dark bar across secondaries. It was slightly smaller than a Herring Gull with a much smaller head and bill. It was larger than Ring-billed Gull. The basal ⅔ of the bill was dusky. The tip of bill was yellow with a red spot. The legs were yellow and the feet were pink. It had a streaked head with dark around eye.

My size estimates were based on length from tip of bill to tip of tail of birds sitting in water. They are relative lengths that I compared primarily to Herring Gulls but also to a few Ring-billed Gulls. The gull was probably not smaller than most typical Herring Gulls. It was smaller than smallest Herring Gull, but very close. It was larger than Ring-billed Gull.

Besides the size I ruled out Western Gull, Slaty-backed Gull and Great Black-backed Gull because they have pink legs in all plumages, rather than yellow. The Yellow-footed Gull has yellow legs, but the Sauk City bird lies well outside the range of size variation of the Yellow-footed Gull. The Yellow-footed Gull is essentially comparable in overall length to the larger Herring Gulls while our bird was no larger and perhaps smaller than a smallest Herring Gull.

Indeed, there are only 3 species that, constrained by size and leg color, were serious candidates: California Gull,

Lesser Black-backed Gull and dark-winged races (European) of Herring Gull. These latter birds not only have dark wings similar to the Lesser Black-backed but are also smaller and have yellow legs!

However, the Sauk City bird had another very striking feature: a broad, dark stripe across the secondaries on the underwing. This is a feature that is also possessed by Lesser Black-backed Gull. However, neither the California Gull nor the dark-winged races of Herring Gull have this dark secondary bar on the underwing. California Gull also lacks the dark secondary bar. In addition, all drawings and photographs in the standard field guides show California Gull with lighter mantle than the Sauk City bird.

Thus, this bird possessed 4 basic features that are also found in Lesser Black-backed Gull but are not found together in any other gull: very dark gray mantle, a shade lighter than black; size of smallest Herring Gull or slightly smaller; dark secondary bar on underwing; and yellow legs. My conclusion is that the Sauk City bird was a 3rd winter Lesser Black-backed Gull.—*Karl Legler, 429 Franklin St., Sauk City, WI 53583.*

Great Black-backed Gull (*Larus marinus*)

7 January 1989, Manitowoc County, Manitowoc containment/impoundment.—Two Great Black-backed Gulls (third winter birds) were found standing on the containment ice in the company of a large group of Herring and Ring-billed Gulls and a single Glaucous Gull. The Great Black-backed Gulls were clearly larger than the Herring Gulls standing in the immediate area and about the size of the Glaucous Gull which stood about 50 feet away. The Great Black-backed Gulls initially attracted my attention as I carefully searched the collection of gulls. Although the wings and mantle appeared to be uniformly black, the large bill with exaggerated gonys and culumn still retained the dark tip characteristic of the subadult bird. The birds spent most of the time sleeping making it difficult to see/establish other critical field marks. The large white and mostly unmarked wedge-shaped head was evident as the birds briefly preened before returning to the sleeping posture. The iris at this time was seen as light yellow in color. The legs were gray/pink. Neither the outstretched wings nor the tail were observed. Other dark mantled gulls were excluded from the identification by the larger than Herring Gull size.—*Charles Sontag, 801 N. 8th Street, Manitowoc, WI 54220.*

Great Gray Owl (*Strix nebulosa*)

6 January 1989, Douglas County, Military Road.—In the early morning of 6 January 1989, Loren Ayers and I were travelling the Military Road in extreme northwestern Douglas County in an attempt to find Great Gray Owls which had made an impressive winter invasion into northeastern Minnesota. At approximately 7:45 A.M. Loren yelled out "There's a Great Gray." The enormous owl was perched in an aspen tree approximately 35 yards from the road. Great Gray Owl identification was quickly and easily made. It was a huge bird, about twice the size of a Barred Owl. It seemed about a quarter larger than Great Horned Owls and Snowy Owls and these were certainly eliminated from a Great Gray because of lack of ear tufts and was much too gray respectively, along with other character-

istics. It had bright yellow eyes (small for the size of the large head) which eliminated Barred Owl. A large facial disk with radiating concentric rings pronounced the Great Gray Owl's features. A very noticeable white "bowtie" extremely contrasted with the overall brown-gray plumage. The owl had vertical striping on the breast, terminating with a skakeskin pattern on the rectrices. After observing the bird for approximately 10 minutes, it flew closer, to 15 yards. In flight it appeared all head with a 5-foot wingspan. It was constantly hunting and did make one unsuccessful attempt at prey with a plunge so deep that only its head remained out of the snow. Loren and I then continued on and notified Robbye Johnson of the sighting. As we returned to the original owl, we unexpectedly found a second bird on Hwy 105. The original bird was still present when we returned.—*Larry Semo, Rt. 2, Box 435, Superior, WI 54880.*

6 January 1988, Douglas County, Military Road.—On January 6, 1989, Larry Semo and I went on an early morning search for Great Gray Owls in Douglas County. We reached the Military Road in the northwest part of the county at about 7:45 A.M.. While slowly driving down the road I noticed a large, dark owl perched about 100′ from the road. I quickly identified it as a Great Gray Owl, and we stopped for closer inspection. The owl was perched in an aspen, and was facing directly toward us. It was about one and a half times the size of a Barred Owl, and the yellow eyes easily distinguished it from the species. The dark gray, vertically striped breast, concentric facial rings and lack of ear tufts eliminated both the Snowy Owl and the Great Horned Owl. We observed the Great Gray for approximately 45 minutes, and then went to Superior to notify Robbye Johnson. On our return trip, much to our surprise, we spotted another Great Gray Owl on the south side of Highway 105 near Superior. We watched this bird for a short time, and then returned to find the first bird still present.—*Loren Ayers, 1067 13½–14th Ave., Barron, WI 54812.*

Boreal Owl (*Aegolius funereus*)

2 February 1989, Bayfield County, farm on Cherryville Road.—I received a call about a Boreal Owl, at a bird feeder, from Tom Doolittle. He had identified the bird and observed that it appeared weak (it fell off its perch several times). It was decided we should capture the owl and band and feed it. Neal Niemuth, Tom and I arrived at the farm about 4:30 P.M. and located the owl sitting on a rafter in an open shed.

The bird was larger than the Northern Saw-Whet Owls I have seen and handled. It had a black bordered facial disk. The disk itself was a whitish color. The forehead was distinctly spotted with white on chocolate brown. Ventral coloring was also a dark brown streaked with white. Dorsal coloration and wings were also dark brown and appeared to be irregularly spotted with white. The bill was a dirty yellow color.

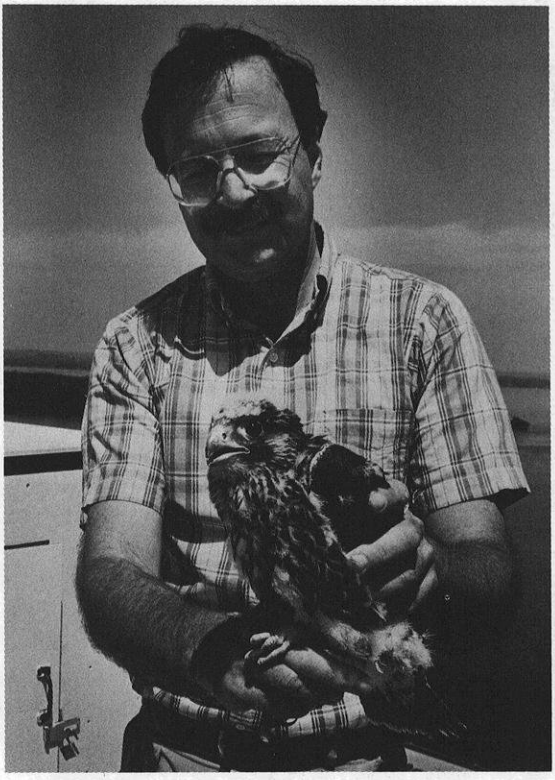
We photographed and watched the owl for about 20 minutes. It spent most of that time watching us and looking around the area. It made one flight to the edge of the shed where it landed and peered around a pile of debris. It spent several minutes at the shed edge and then returned to the rafter it was originally on. Flight was strong and direct. After sitting on the rafter for another 10 minutes the owl flew to a ladder near

a bird feeder and sat on a rung watching the feeder.

At that time the owl was captured and examined. The bird was completely lacking in fat. It was fed (pounced on and ate a mouse), banded and released back where it was captured. If it stays in that area, we will release a mouse or two each day to supplement what it can catch until the weather breaks.—*Richard L. Verch, Northland College, Biology Department, Ashland, WI 54806.*

Young Prairie Falcon *by Thomas R. Schultz*

1989 Golden Passenger Pigeon Award



Stanley A. Temple

The Wisconsin Society for Ornithology is fortunate to have as one of its active members a scientist who has earned world-wide recognition for his numerous and important contributions to the fields of conservation and ornithology.

Stan Temple started his professional contributions in 1968 when he published an article on Turkey Vultures in *The Wilson Bulletin*. Since then he has published over 125 scientific papers and 6 books, with emphasis on bird conservation, but encompassing a wide spectrum of ornithological topics.

He received his formal training at Cornell University, earning his Ph.D. in 1973, and has held positions with the Cornell Laboratory of Ornithology, the Cleveland Museum of Natural History, the World Wildlife Fund, and the International Council for Bird Preservation. Stan is now at the University of Wis-

consin-Madison, where he is Professor of Wildlife Ecology and Beers-Bascom Professor in Conservation.

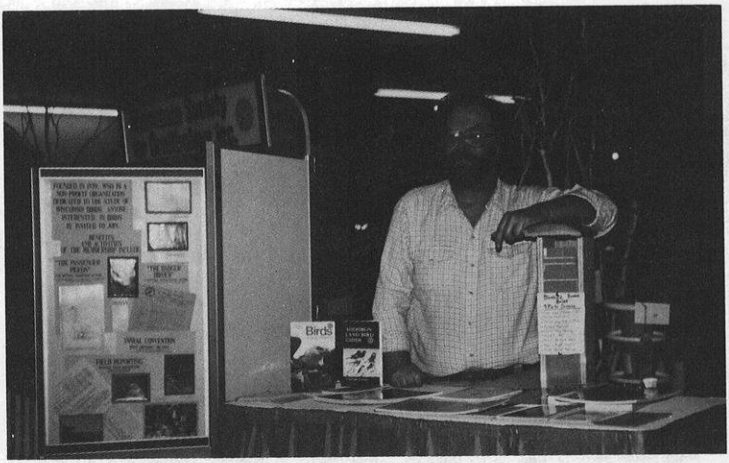
Dr. Temple joined WSO in 1977 and quickly took a position of leadership, accepting a position on the board as Chairman of the Research Committee in 1978. One of the major new activities of our society is the result of his able work—the valuable and acclaimed Wisconsin Checklist Project. He now serves as Editor of *The Passenger Pigeon*, and was Chairman for the excellent 50th Anniversary Convention.

His accomplishments have been recognized by the American Ornithologists' Union, which elected him as a Fellow in 1987, by two Excellence in Teaching Awards from the University of Wisconsin, and by his appointment to important positions in a number of scientific and conservation organizations. Additional examples of his leadership in professional ornithology are his editorial contributions for the International Council for Bird Preservation and the Society for Conservation Biology.

Stan has travelled extensively in his studies, visiting such widely separated areas as Alaska, Iceland, Mauritius and Peru, as well as the nearby wilds of the Apostle Islands and the Baraboo Hills. His research has been characterized not only by its professional excellence, but also by its originality. Who else has investigated the food habits of the Dodo, a bird that was extinct centuries before Stan was born? In Wisconsin, his research has included such topics as habitat fragmentation, mortality at winter feeders, breeding bird communities, and migration.

In recognition of his leadership in modern ornithology, particularly in the preservation of endangered species, and in appreciation of his many important contributions, the Wisconsin Society for Ornithology takes great pleasure in awarding the Golden Passenger Pigeon Award, for outstanding achievement in the field of ornithology, to Dr. Stanley A. Temple.—*Howard F. Young, Awards Committee.*

1989 Silver Passenger Pigeon Award



Noel J. Cutright

The recipient of the 1989 Silver Passenger Pigeon Award joined the WSO in 1977, and he made his first contribution to *The Passenger Pigeon* that year, rallying members to get photo documentation when reporting rare species. In 1979, he prepared a detailed instruction list for field trip leaders, and in 1985 he traced and analyzed the spread of the House Finch in Wisconsin.

Our awardee accepted the chairmanship of the Publicity Committee in 1981, and worked effectively at that post, among other things establishing a WSO booth at the annual sports show in Milwaukee.

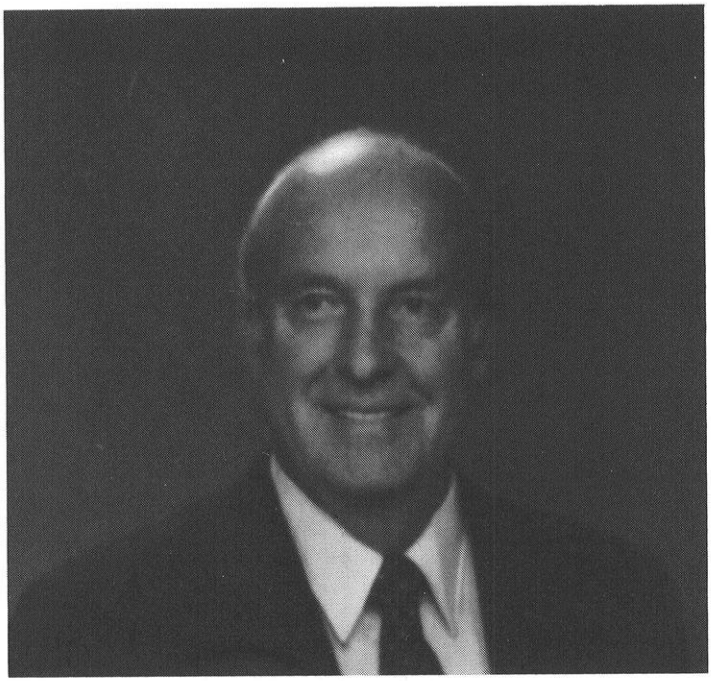
In 1984 he was elected WSO's Vice-president, where he served efficiently while maintaining his publicity duties. This was followed by two terms as WSO President. His tenure was marked by improved budgeting procedures, and by the reintroduction of the "President's Statement" in *The Passenger Pigeon*, which helps the membership get an overall view of our activities.

Another valuable contribution was his establishment of the "Birdathon." This has been an increasingly successful fund raiser, and has significantly eased our tax burden at Honey Creek.

In addition to these contributions, he showed his commitment to WSO by becoming a Life Member in 1985. Finally, it should be noted that he runs four Breeding Bird Survey transects each year.

With sincere gratitude for these exemplary services, the WSO is pleased to present the Silver Passenger Pigeon Award to Mr. Noel J. Cutright.—*Howard F. Young, Awards Committee.*

Certificate of Appreciation



William L. Hilsenhoff

Bill Hilsenhoff joined the Wisconsin Society for Ornithology in 1955, and immediately became an active contributor of significant records to *The Passenger Pigeon.* In 1966 he accepted the assignment of consolidating and summarizing the annual Christmas Bird Count reports, and preparing them for publication in *The Passenger Pigeon.* In 1974 and 1975 he also served as Winter Field-notes Compiler. He served 4 years on the original Records Committee, serving as chairman for 2 of these years. He still serves as editor of the Christmas Bird Count reports, completing 23 years in this important post. The Wisconsin Society for Ornithology takes great pleasure in presenting this certificate to Professor William Hilsenhoff, to recognize his efforts and to express our gratitude for his exceptional services to the society.—*Howard F. Young, Awards Committee.*

ABOUT THE AUTHORS AND ARTISTS

Bruce R. Bacon is a wildlife research technician with the Wisconsin DNR. He works on waterfowl and gamebirds in northwestern Wisconsin. He is also a bluebird enthusiast and a founder of the Bluebird Restoration Association of Wisconsin.

Scott R. Craven is an Associate Professor and Extension Wildlife Specialist in the UW-Madison's Department of Wildlife Ecology. Scott is well known among naturalists around the state because of his extension publications and frequent radio shows. He is particularly interested in urban wildlife and wildlife damage problems.

James O. Evrard is a habitat management biologist with the Wisconsin DNR's Bureau of Research. His special area of interest is wetland and farmland habitats for waterfowl. He obtained his B.S. and M.S. degrees in Wildlife Ecology from the UW-Madison.

Randy M. Hoffman is our current president. He is a biologist with the Wisconsin DNR's Bureau of Endangered Resources where he is in charge of managing State Natural Areas.

Harold G. Kruse grew up in the Baraboo Hills and has been one of the central figures in efforts to preserve the unique ecological features of the area. He has been actively involved with The Nature Conservancy and WSO in preservation efforts, including the creation of Honey Creek State Natural Area.

Kenneth I. Lange has been the Naturalist at Devil's Lake State Park since 1966. He has a master's degree from the University of Arizona. Ken has been a frequent contributor to WSO publications: as a field-note compiler and author of articles and the book, *Breeding Birds of the Baraboo Hills*. He formerly worked at the Smithsonian Institution's U. S. National Museum.

Edward W. Peartree has been involved in many WSO activities over the years, serving as President and more recently as Field Trip Chairman. He has been an active bird-bander and has focused his activities at Honey Creek.

Thomas R. Schultz is a well-known Wisconsin bird artist who serves as WSO's Field Trip Chairman and Assistant Editor for Art. His work has appeared in many shows, including the

prestigious "Birds in Art" exhibition at the Leigh Yawkey Woodson Art Museum.

Stanley A. Temple is Editor of *The Passenger Pigeon*. He is a Professor in the UW-Madison's Department of Wildlife Ecology. He is coauthor of *Birds of the Apostle Islands*, *Wisconsin Birds: A Seasonal and Geographical Guide*, and *Wisconsin Birds: A Checklist with Migration Charts*.

Mia Van Horn is presently a graduate student at the University of Missouri. She obtained her B.S. in natural resources from the UW-Stevens Point. Her work on bluebirds was part of a student internship with the Wisconsin DNR.

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