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# THE *PASSENGER* *PIGEON*

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# **THE PASSENGER PIGEON**

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## **Becoming a Better Birder**

As time passes, I constantly see the need to challenge myself in both my personal and career lives. If it weren't for these driving forces, there might not be a Butterfly House at Mosquito Hill Nature Center and I doubt that little Parker James Anderson would exist to gleefully greet me at the front door each evening as I return home from work. It is no different for birders. Challenging oneself to become a better birdwatcher can be a rewarding endeavor.

Mosquito Hill Naturalist Steve Petznick and I teach a fifteen-hour long course each spring called Bird Basics. As the name might imply, this class is intended for beginners and it fills to capacity each time we announce that registrations are being accepted. One trend that has puzzled Steve and me is the number of people who return to repeat the class. Wondering if we weren't producing confident "graduates," we asked some returnees why they had come back for a second dose of Thursday evening sessions?

Much to our relief, we were told that joining other birders at various skill levels was highly motivational and a tremendous help in developing the necessary knowledge base that accompanies competent birding.

Seeking new information that would benefit our students, Steve suggested that we poll several of the more respected birders in Wisconsin to find out what helped them most to become better birdwatchers. We found some of their comments obvious while others were more subtle. All were very good suggestions that each of us should incorporate into our own birding activities.

Can you predict the most frequent response to our question? If you chose birding with an experienced birder or increasing the amount of time you spend in the field, you are correct. Here are other pointers that were shared by our panel.

When out birding, these tips should be considered:

- Learn about bird habitats and the species expected to be found in each one.
- Sensitize your senses to movements or objects that appear to be out of place. In many cases you will be treated to a bird . . . or a very interesting looking clump of leaves.
- Look intently for field marks as a means to confirm your initial predictions.
- Observe birds as they make sounds to strengthen the relationship between species and their songs/calls.
- Increase your awareness of bird behavior: i.e. does it run, walk, or do the funky chicken?
- Study bird shapes, postures, and silhouettes.

While in the comfort of your home, consider these hints:

- Consult field guides before going out to observe birds.
- Listen to tapes.

- Go beyond the guides; read bird accounts in any variety of forms.
- Fill out bird reports! Not only will this practice help you, but WSO will benefit too!
- Feed and observe backyard species.
- Become familiar with bird anatomy to help speed the processing of observation and information into identification.

Finally, our group of experts offered some subtle but equally important suggestions to enhance birding competence:

- Allow for differences in color. Consider the time of day, weather conditions, angle of sun and molting.
- Study the normal migration patterns for your area.
- Take a class or workshop. Everyone can learn something new.
- Serve both as teacher and student.
- Start at an early age.
- Use the best optical equipment you can afford. You should be purchasing for a lifetime of use.

By sharing our results, we hopefully have added to your birding prowess. This advice from experts will, in time, help you to feel more qualified to assist others in their quest to become bird watchers. No matter what level of birding you strive to achieve, try to discover what it takes for you to develop sincere enjoyment from birdwatching. Your efforts now will last forever ... or until the AOU changes names again!

A handwritten signature in black ink that reads "Jim ANDERSON". The "Jim" is written in a cursive style, while "ANDERSON" is in all caps with a more blocky, slightly irregular font.

*President*

# The Cooper's Hawk in Wisconsin: A Review of Its Breeding Biology and Status

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*A 17-year study of the Cooper's Hawk (*Accipiter cooperii*) in Wisconsin has documented healthy reproductive success as well as nesting densities that are among the highest reported for this raptor in North America. This work has also helped remove this bird from the state's list of threatened species. Cooper's Hawks breed statewide in a wide variety of tree species and upland wooded habitats, including pine plantations and urban woodlots. This hawk may be one of the commonest diurnal raptors in Wisconsin in the nesting season.*

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*by John Bielefeldt, Robert N. Rosenfield, William E. Stout  
and Susan M. Vos*

Many of the results of our continuing studies of the Cooper's Hawk (*Accipiter cooperii*) were not available to Robbins (1991) when he wrote his account of this species in *Wisconsin Birdlife*. Here we update and amend some of his interpretations about its status and breeding biology in the state on the basis of our 1980–1996 work at more than 500 nests in 30 counties (Figure 1).

## BACKGROUND

The Cooper's Hawk was widely described as a common breeding bird in Wisconsin and other midwestern states in the late 1800s and early 1900s (Rob-

bins 1991, Rosenfield et al. 1991a). By the 1930s and 1940s, counts along autumn migration routes in eastern states had suggested that its numbers were falling, although the geographic origins of migrants—their birth and/or breeding sites—were and are unknown in almost all cases. Concurrent declines in reproductive success in the northeastern United States in the late 1940s through mid-1960s were associated, temporally at least, with evidence of eggshell thinning and other impacts of environmental contaminants, especially DDT.

Consequent concern about the eastern population of the Cooper's Hawk depended mostly on information gath-



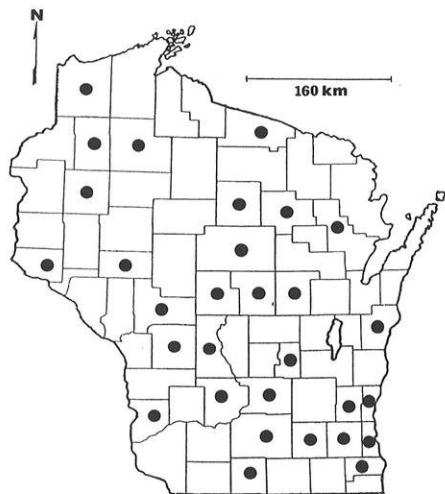


Figure 1. Wisconsin counties with active Cooper's Hawk nests, 1980–1996 (Rosenfield and Anderson 1983; RNR, JB and WES unpubl. data).

ered in other states. Data on Wisconsin's breeding population were scant, but in 1979 the Wisconsin Department of Natural Resources (WDNR) deemed it prudent to designate this hawk as a threatened species in the state.

Our research on the bird's Wisconsin status, begun in 1980 under the auspices of WDNR, the U.S. Fish and Wildlife Service, and UW-Stevens Point, was initially statewide in scope. Since the mid-1980s, our fieldwork has increasingly focused on three study areas (and research aims other than status) in Waukesha and Portage Counties (JB and RNR) and more recently Milwaukee County (WES). However, these three study areas continue to provide cumulative annual sample sizes (about 30–50 nests per year) as large as the statewide samples of earlier years. We also continue to add to a 17-year stream of data on reproductive success

and other aspects of Wisconsin status, including nesting phenology (SMV).

This overview of our work concentrates on nesting success, breeding densities, habitat use, and related aspects of the status of the Cooper's Hawk as a breeding bird in Wisconsin, with little room for mention of much deserving research in other parts of North America. For broader summaries of current knowledge of the species and better reviews of the literature, see Palmer (1988) and Rosenfield and Bielefeldt (1993).

### NESTING CHRONOLOGY

Robbins (1991) proposed that the bulk of spring migration in the Cooper's Hawk in Wisconsin occurs between late March and early May. We have also suggested a similar migration schedule for Wisconsin and other eastern states at comparable latitudes (Rosenfield and Bielefeldt 1993). However, the link between spring migrants and the state's breeding population is muddled by overwintering birds (as Robbins noted) as well as the six to eight weeks of overlap between nesting activities in some Wisconsin birds and presumed migration in others.

January captures of marked birds indicate that some of the state's Cooper's Hawks may spend the winter as little as 1–2 km from their nest sites of previous or following years. Paired birds (winter residents?) engaged in "courtship" behaviors have been seen on subsequent nest sites as early as 6 March in southern Wisconsin, and nest building and copulations are underway at many breeding sites in southern counties by mid to late March (Rosenfield et al. 1991b), when migration has supposedly just begun. Statewide, a majority

of pairs has started to lay by late April and early May, after several on-site weeks of nest building, at a time when migration is supposedly still in progress.

Local breeders, which may become somewhat more conspicuous both visually and vocally as nesting begins, might be mistaken for migrants in some cases. We suspect, for example, that peak observational frequencies circa 1 May (Temple and Cary 1987) are probably attributable in most instances to breeding birds rather than migrants. It remains difficult to square nesting schedules with known or perceived migration schedules in Wisconsin, partly because we know almost nothing about the destinations of the state's spring migrants or their subsequent breeding status, in or out of Wisconsin.

Historical data available to Robbins (1991) suggested that Cooper's Hawks had initiated incubation at nearly all of 37 Wisconsin nests "before" 15 May (Oconto County) or "between" 1 and 15 May (Wood County), with extreme laying dates approximately 10 April to 10 June. By backdating from estimates of nestling age at the time of banding for 358 successful nests throughout the state, 1980–1995, we have calculated the median hatching date in Wisconsin as 7–8 June. Individual nests have hatched young as early as 22 May and as late as 20 July.

Further backdating for an incubation period of about 34 days and a preincubation laying period of about five days yields median dates for onset of incubation circa 4 May (extremes about 18 April–16 June) and first eggs circa 29 April (extremes about 13 April–11 June). These results agree well with Robbins' chronology except

that a laying date as late as 10 June is exceptional: at several hundred successful nests we have had only one hatch date later than 30 June and consequently only one first-egg date later than 21 May.

A median fledging date circa 10 July (extremes about 23 June–21 August) was estimated by adding 32 days to the median hatch date for our sample. Many pairs will re-nest if an initial clutch is lost during laying or early incubation, and the latest extremes for hatch and other above dates may involve such re-nests. Parents may provide food to fledglings for as much as seven weeks after young leave the nest (Kelly and Kennedy 1993, RNR and JB). The breeding season of the Cooper's Hawk in Wisconsin may thus last about five months, on average, between nest building in the latter half of March and fledgling independence in mid to late August.

### REPRODUCTIVE SUCCESS

When we started our study in 1980, some colleagues thought that the state's breeding population was so low that we might not find any nests, while others suggested that we would be doing well to find two or three nests per year. Indeed, at the time and between the both of us (RNR and JB) we had only seen two Cooper's Hawk nests in our lives. Nevertheless, with the help of many cooperators—WDNR staff, falconers, birders, and others—we found 25 nests in 1980 and 60 more in the two succeeding years. Nest success, calculated as the proportion of clutches producing one or more bandable young  $\geq 14$  days in age, averaged 69% ( $n=83$ ) in 1980–1982. After three years of fieldwork, it seemed that the



Figure 2. Adult female Cooper's Hawk standing over sleeping young. Photo by J. Papp.

Wisconsin population of the Cooper's Hawk was nesting more successfully, in larger numbers, than we or WDNR had anticipated. Nesting densities, discussed later, were often as high or higher than those reported elsewhere, including western states in which the species was still considered a "common" breeder.

Other reproductive indices from Wisconsin in the 1980–1982 breeding seasons—eggshell thickness, mean clutch size (4.3), hatching rates (96%), and mean number of bandable-aged young per successful nest (3.5)—were comparable to historical figures for the northeastern U.S. in the pre-DDT years before 1945 (Henny and Wight 1972, Rosenfield and Anderson 1983). Contaminants such as PCBs, heavy metals, and especially DDE (a metabolic by-product of DDT) were present in each

of 12 Wisconsin eggs collected in 1980, but contaminant levels were usually below those considered harmful. No ill effects on reproductive success were detected.

Similar figures on reproductive success have prevailed through 1996 in aggregate work at more than 500 nests. Annual fluctuations do occur, mainly because of inter-year (but trendless) differences in nest success, which has ranged from 57% to 93% over 17 breeding seasons.

#### NESTING DENSITIES

During 1980–1982, we made intensive repetitive ground searches to try to find all Cooper's Hawk nests on search areas in Lincoln, Portage, Waukesha, and Oconto Counties; the last site courtesy of J. Mosher, M. Fuller, and K.

Titus. These efforts totalled nine site-years. Nest search areas, each 2,400–2,900 ha in size (9–11 sq. mi.), were objectively delineated without advance information on the presence or absence of nesting hawks. Woodland nesting cover on these four search areas varied from 30% to 90%.

The number of active Cooper's Hawk nests per area per year ranged from zero to four. ("Active nests" are those in which eggs were known to have been laid.) Maximum density was one nest per 734 ha (about 2.8 sq. mi.) in Portage County in 1981. Mean density across years and search areas was one nest per 1,907 ha (about 7.4 sq. mi.) in 1980–1982. It may be easier to visualize density in terms of the distance between active nests. At highest density in 1981 in Portage County, where two-thirds of the search area was cropland, nests were spaced 1.3–1.9 km apart (about 0.8–1.2 mi.).

At the time, three of the four Wisconsin search areas in four of nine site-years had nesting densities comparable to or greater than the small set of previously reported densities elsewhere in North America (Rosenfield and Anderson 1983). We have since found even higher densities of nesting Cooper's Hawks in the state: one nest per 331 ha (1.3 sq. mi.) in mostly wooded rural habitat in Waukesha County in 1986 and again in 1992, and one nest per 272 ha (1.0 sq. mi.) in lightly wooded suburban habitat in Stevens Point, Portage County, in 1993, where median inter-nest distance was 0.8 km (range = 0.5 to 2.4 km, Rosenfield et al. 1995). These Wisconsin densities continue to exceed those reported in recent studies in other parts of the species' breeding range. Both breeding success and nesting densities thus sug-

gest that the Wisconsin population of the Cooper's Hawk is reproductively and numerically healthy at this time (1980–1996).

### NESTING HABITATS

Robbins (1991) and Zimmerman (1991) needed to use concise, broad brush descriptions of vegetational associations in characterizing the habitats of Wisconsin's breeding birds. Robbins' shorthand portrayal of the summer habitat of the Cooper's Hawk as "deciduous forest" and "northern maple-hemlock-pine forest" is partly but not entirely illustrative of the breadth of the species' nest site habitats.

We have found Wisconsin nests in at least 25 species of trees, predominately oaks (*Quercus* spp.) and pines (especially white pine [*Pinus strobus*]) but also spruces (*Picea* spp.), aspens (*Populus* spp.), ashes (*Fraxinus* spp.), willows (*Salix* spp.), maples (*Acer* spp.), birch (*Betula* spp.), black walnut (*Juglans nigra*), American beech (*Fagus grandifolia*), black cherry (*Prunus serotina*), etc., and even, in one case, a dead tree. Aged trees in "old" forests are not essential as nest sites. Mean diameter of the nest tree at 52 randomly discovered Cooper's Hawk nests across the state, 1980–1994, was 33 cm (about 12 in) with a range of 12–50 cm (Trexel et al. 1999). Rosenfield and Anderson (1983) arrived at an identical mean for nest tree diameter at 60 statewide nests, 1980–1982. Many conifer plantations and other woodlands used by nesting Cooper's Hawks are thus  $\leq 40$ –50 years in age.

"Natural" woodlands, large forests, forest-interior habitat, and sites remote from human activity are also unneces-





Figure 3. Cooper's Hawk nest and eggs in Portage County, Wisconsin. Photo by R. Rosenfield.

sary as breeding habitat. Pine plantations, for instance, are frequent nest sites in southeastern counties where native pinewoods are virtually absent (Bielefeldt and Rosenfield 1994). We have studied many successful nests in suburban yards or urban woodlots as small as one hectare, or approximately three acres (Rosenfield et al. 1996). For example, we found 12 active Cooper's Hawk nests in 1996 in city parks, residential subdivisions, and other fragments of urban woodland in Milwaukee County; at least eight and possibly up to 12 additional sites were also known to be occupied by presumably nesting pairs in that year (WES, unpubl. data). Nest success at urban/suburban sites in Milwaukee and adjoining counties in 1996 was 70% ( $n=20$ ), with 3.2 bandable-aged young per successful nest (WES).

Moreover, Cooper's Hawks have

nested successfully and repeatedly  $\leq 100$ –200 m from some of the state's busiest traffic, including Interstate 94 and the entrance road at Devil's Lake State Park. One pair fledged young in an isolated tree above a path used daily by hundreds of school children. Many successful nests have been built  $\leq 50$ –100 m from houses, secondary highways, horse or hiking trails, popular campsites, picnic grounds, etc. Although we have not yet quantified the effect of human proximity on nest success, it seems that there is little human (or researcher) impact in the absence of prolonged disturbance at the nest tree itself (Rosenfield and Bielefeldt 1993).

On the other hand, nesting also occurs in large woodlands at remote forest-interior sites, far from the nearest house or paved road. Nest finding is logistically difficult in such areas, so we

have studied relatively few nests in northern Wisconsin (Figure 1). Nonetheless, mean density of active nests on a heavily forested search area in Oconto County, 1980–1982, was one nest per 2,175 ha, not much less than that on other search areas in the same years (one nest per 1,788 ha). Aspen and birch rather than mature forest provided most of the woodland cover on this Oconto County search area.

The Cooper's Hawk in Wisconsin thus seems to employ the state's entire spectrum of upland forest habitats as nest sites. It breeds in deciduous, mixed, or coniferous woodlands as well as conifer plantations—large or small, urban or rural, younger or older, "natural" or not. So far, however, we have discovered only a handful of nests in lowland forests and lowland trees (green ash [*F. pennsylvanica*], swamp white oak [*Q. bicolor*], black and weeping willows [*S. nigra* and *S. babylonica*], red maple [*A. rubrum*]), mostly at stream sides and similar margins between upland and lowland habitats. (One exceptional nest, built in floodplain forest over standing water, was abandoned before egg laying and later expropriated by a tree-nesting Mallard [*Anas platyrhynchos*]) This paucity of bottomland nests may be partly due to the limited availability of such habitats on our principal study areas, although breeding seems to be truly unusual in the state's conifer swamps (Rosenfield et al. 1991a).

Habitat needs of the Cooper's Hawk during the breeding season are, of course, not limited to nesting sites but also include foraging and roosting areas. Data on these other aspects of habitat use are minimal. One radio-tagged male breeding in Portage County usu-

ally roosted >120 m (400 ft) from his nest site, mainly (61% of sample nights) in pine plantations that occupied only 10% of his breeding season home range (Murphy et al. 1988). Small parts (12%) of his seasonal home range also showed disproportionate use (88%) in daytime radio tracking. These favored areas, possibly foraging areas, were a mix of suburban oak-pine woodlots, pine plantations, semi-open shrublands, and semi-wooded residential lands.

Nestling diets may also allow some inferences about foraging habitats used by adults at the mid-season stage of breeding (June to early July). At Wisconsin nests watched from blinds, eastern chipmunks (*Tamias striatus*) provided one third of 329 prey items delivered to nestling Cooper's Hawks (Bielefeldt et al. 1992). Other mammals, including thirteen-lined ground squirrels (*Spermophilus tridecemlineatus*), accounted for 5% of items. Remaining prey was mostly medium-sized birds such as American Robins (*Turdus migratorius*), European Starlings (*Sturnus vulgaris*), Common Grackles (*Quiscalus quiscula*), Blue Jays (*Cyanocitta cristata*), Northern Flickers (*Colaptes auratus*), and Mourning Doves (*Zenaidura macroura*). This list of prey species seems to show that parental hunting habitats are not restricted to woodlands but also include forest-edge and open-country sites. Other dietary studies reviewed in Bielefeldt et al. (1992), including Errington's (1932) work in southern Wisconsin, have also found that open country birds such as Northern Bobwhite (*Colinus virginianus*) and young Ring-necked Pheasants (*Phasianus colchicus*) are sometimes frequent prey of the Cooper's Hawk.

## WISCONSIN STATUS

In 1983, we proposed that the state's apparently thriving population of breeding birds warranted the removal of the Cooper's Hawk from Wisconsin's formal list of threatened species. It was so removed in 1989 but retained for a time on the informal list of birds of "special concern." Recently, it was also deleted from the latter list. In his review of forest raptor population trends and the shortcomings of current data on the numbers of woodland raptors in North America, Fuller (1996) cited collaborative Wisconsin research on the Cooper's Hawk as an example of the utilitarian benefits of intensive statewide studies of breeding populations.

However, despite demonstrably high reproductive success and nesting densities, tolerable contaminant levels, considerable habitat latitude, and eventual delisting—as summarized above—our studies did not and could not show that the Wisconsin breeding population had "conclusively . . . increased" (Bureau of Endangered Resources 1989) or exhibited an "encouraging increase" (Robbins 1991). Although it is certainly conceivable that the number of nesting Cooper's Hawks in the state has risen in recent decades, neither we nor others have the data to confirm an "increase." It is also conceivable, for want of data, that no real decrease in the breeding population had occurred in Wisconsin in earlier decades, even though some experienced observers believed that a decline in the state's breeding population had occurred at mid-century (e.g. F.N. Hamerstrom, pers. comm.).

Nesting densities are the readiest and among the best of local and state



Figure 4. Bob Rosenfield extricates an adult female Cooper's Hawk from a mist net. Photo by Bill Seybold.

level measures of trends in the breeding population of the Cooper's Hawk (and other raptors). Accurate information on raptor densities requires thorough nest searches on specified areas of relatively large size, preferably over a span of years and several objectively chosen search sites. Such data are not available for the Cooper's Hawk in Wisconsin from the 1940s to 1970s, when declines were suspected, or from earlier decades, and reliable comparisons of past vs. present numbers of nesting Cooper's Hawks are not possible.

This hawk is ordinarily an inconspicuous bird in the breeding season, even where common. It is often difficult to detect and sometimes hard to identify in a quick glimpse, even for practiced

observers. (In one extraordinary case, we found a nest, counted eggs, and banded young yet we never saw or heard either parent.) For such reasons, roadside breeding bird surveys have not yielded an adequate sample of summer numbers or population trends of the Cooper's Hawk in the midwestern U.S. (Rosenfield et al. 1991a).

Christmas counts suffer the same problems, and seeming changes in these early-winter counts since the 1950s (Robbins 1991)—if credible—do not necessarily index the state's nesting population. Migration counts by experienced hawk watchers usually offer larger sample sizes and surer identification, but tallies of migrants in other states, or even in-state, may not be pertinent to summer numbers in Wisconsin. As previously noted, birth and breeding grounds are unknown for nearly all migrants.

We therefore lack unambiguous evidence of a recent increase (or historical decline) in the breeding population of the Cooper's Hawk in Wisconsin. Although we have demonstrated that the number of nesting birds was at least stable in the short term on one study area in Waukesha County in 1986–1992 (Rosenfield et al. 1995)—a conclusion that does not preclude an increase—long-term trends in the state's breeding population are undocumented. Most birds do not nest until two or more years of age, and the past or present size of the non-breeding segment of the state's summer population is entirely unknown.

Robbins (1991) concluded that the Cooper's Hawk has a statewide distribution as a breeding bird. We concur (Figure 1). However, he also rated it an "uncommon" summer resident in the state in comparison to other hawks,

and in this we do not agree. We have conjectured that the Cooper's Hawk may instead be one of the commonest diurnal raptors in Wisconsin in the nesting season (Rosenfield et al. 1996). Some other hawks also show a statewide breeding range, or relatively high densities in widely available habitats including urban habitats (e.g., Stout et al. 1996), or broad tolerances in nest site use, but none seems to combine all these features to the degree that Cooper's Hawks do. The relatively large numbers of nests (>10 per year) near our homes in Portage and Waukesha Counties illustrate the ease with which we have found breeding birds in our own backyards, sometimes literally so.

The magnitude of the breeding population of the Cooper's Hawk in Wisconsin can only be guessed. Risky extrapolations of average nesting densities on a few areas searched intensively in 1980–1982, as summarized earlier, would lead to tentative statewide estimates on the order of 15,000 breeding adults (7,500 nests per year), not including non-nesters known to be present in summer. This guess might even be conservative in light of higher nesting densities on two Wisconsin sites in several recent years, as also noted earlier. In any event, these preliminary estimates of the nesting population of the Cooper's Hawk in one average sized *state* are about the same as the *continental* estimate of 20,000 adults (apparently breeding or otherwise) as recently proposed by Johnsgard (1990).

Although numbers of the Cooper's Hawk no doubt vary from state to state and province to province across diverse nesting habitats in its wide North American breeding range, there seems little reason to think that the Wiscon-



sin landscape provides a remarkable haven for this species. On the contrary, present populations may have been misperceived and possibly underestimated in other states as well as Wisconsin.

As a breeding bird, the Cooper's Hawk is still regarded as extirpated, endangered, threatened, or otherwise of "concern" in approximately 14 midwestern and eastern states, usually without benefit of adequate field research in the nesting season (Mosher 1989, Rosenfield et al. 1991a, Rosenfield and Bielefeldt 1993). Meanwhile, a perception persists in the popular literature that this hawk is "seldom found" (Peterson 1980) or "gone" (Mackenzie 1986) as a breeding bird in the eastern U.S. This perception is clearly inaccurate in Wisconsin (Rosenfield et al. 1996) and perhaps so in other midwestern states such as Iowa (Conrads 1997).

In Wisconsin, at least, the Cooper's Hawk has retained or possibly regained—we do not know which—its former status as one of the state's most numerous nesting hawks.

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Sedge Wren *by Cary Hunkel (Wisconsin Department of Natural Resources)*

## **John T. Emlen Jr.: A Naturalist for All Seasons, Part 1: The Making Of A Naturalist-Ornithologist, 1908–1934**

*by Sumner W. Matteson*

**D**r. John Emlen, who died November 8 1997, in Madison, was a superb naturalist and ornithologist, and perhaps Wisconsin's most distinguished professor of zoology. The following paper (Part 1 of a three-part series) presents excerpts from Dr. Emlen's recent privately published autobiography entitled *Adventure Is Where You Find It: Recollections of a Twentieth Century American Naturalist*. About the title for his book, he noted: "Launching a career in the first decade of this century, expecting to terminate it in the last decade of the same, and spending most of the interim as an enthusiastic naturalist, led to the title for my informal book."

Part 1 focuses on Emlen's early years through college. Part 2 charts the beginning and middle stages of his professional life. Part 3 begins with Emlen's account of research on seabirds in the North Atlantic during the summer of 1960 and ends with a vivid description of a 1989 World Wildlife tour of Argentina. Following the conclusion of his autobiography, I will present selected recollections from some of his graduate students, as well as a com-

plete list of Emlen's published writings. A brief biographical sketch follows below and provides a contextual framework for viewing Emlen's extraordinary life and the attendant excerpts from his book.

John Thompson Emlen was born at home in Germantown, Pennsylvania, on December 28 1908. His father, John, "came from a line of Welsh Quakers" and John Jr. and siblings Sue, Mary, and Woodruff grew up three blocks northeast of the Emlen family residence on Coulter Street and three blocks north of his mother's (Mary) home on Germantown Avenue. He attended Germantown Friends' School, just as his parents and grandfather had before him, and belonged to the Society of Friends. Emlen also followed his father and grandfather to Haverford College, where he received his B.S. in 1931. He felt this was a seminal period:

The third decade of the twentieth century—the decade of the 1920s when I attained adulthood—marked a first in world history. Natural history would no longer be considered just a recreational diversion but a solid, scientific discipline



like anatomy, physiology, or biochemistry. Animal behavior, a central element of natural history, and one to which I was attracted in college and which I eventually embraced as my adult profession, was being viewed in a different light. It was being promoted into a new, more dignified field—ethology, a name apparently coined by a practitioner sensitive to the informal implications of the old traditional term.

Emlen received his Ph.D. in ornithology from Cornell University in 1934, the year he married Virginia Merritt of Ithaca, New York. They were, in time, blessed with three sons: John Merritt Emlen, who works for the U.S. Geological Survey in Seattle, Washington; Stephen Thompson Emlen, professor of behavioral ecology at Cornell University in Ithaca, New York; and James Woodruff Emlen, Vice President for Exploratory Research at Connetics Corporation in Palo Alto, California.

In 1934, Emlen journeyed to Madison, Wisconsin, to work for Aldo Leopold and then for the U.S. Biological Survey as a biologist conducting surveys of waterfowl habitat along the Upper Mississippi River. From 1935 to 1942 he served as a zoology instructor in the biology department at the University of California-Davis in the Sacramento Valley. In 1942, he joined the John Hopkins School of Hygiene and Public Health to work on an extensive rat control project in Baltimore, Maryland. In 1945, he returned to Madison as associate professor of zoology at the UW-Madison. He became a full professor in 1947, served as department chairman from 1950 to 1953, and retired in 1974. During this period, he pioneered evolutionary field studies in the ecology and behavior of birds and mammals, and he mentored 39 doc-

toral and 22 master's students at the UW. He found working with graduate students particularly rewarding:

During my own subsequent career in ethology, one thing stands out. My students, particularly my graduate students in animal behavior, were not only my pride and joy but my everyday companions on the job. With most of them I was able to get out into the field, even on a few of their overseas research projects. . . .

During those spring semesters in the late 1960s and early 1970s, until my retirement from the university in 1974, I helped several students get started on their overseas research. These included George Schaller to central Africa on his gorilla study, Norman Owen-Smith to southern Africa on his rhinos, Richard Penny to the Antarctic on his penguin study, Roger Evans to New Zealand to study Red-billed Gulls, and Gordy Stephenson to Japan on his monkey project. All in all, it was an ideal arrangement for both the students and me, their professor.

My other students, working on their home-based projects in the states, were not neglected. I still had adequate time for their special programs during the summer sessions and fall semesters when I was still on campus.

During the course of his UW tenure, he presided as president of the Wisconsin Society for Ornithology (1955–1956), president of the Wilson Ornithological Society (1957–1958), and, soon after he retired, as president of American Ornithologists' Union (1975–1976). He also served as president of the Cooper Ornithological Society (1939–1940). Among notable awards bestowed on him was a John Guggenheim Fellowship, a Fulbright Fellowship, and the highest honor in American ornithology—the Elliot

Coues Award—which he received in 1973.

After his retirement, Emlen and Virginia conducted research overseas in several countries, and in Wisconsin he coordinated rare bird surveys for The Nature Conservancy during 1987 to 1990. In recognition of Emlen's exceptional tenure at the UW, a scholarship fund was established in his name in 1994 to award to a graduate student who demonstrated outstanding potential for creativity in field research.

### THE EASTERN YEARS (1908–1926)

The Emlen family was tight-knit and worked together: his father and grandfather, James, shared an office in Philadelphia “where they managed the business affairs of several pioneering social service organizations.” Emlen proudly described his heritage and the origins of his yearning to explore the natural world.

The first of the Emlen tribe to appear in America was apparently a young Welsh lad, George Emlen. Responding to a streak of religious zeal, George joined William Penn as his personal cabin boy and shipped out from Cornwall in 1681 to join Penn's Quaker colony in the City of Brotherly Love—Philadelphia.

Mother's father, Woodruff Jones, was a businessman, chemist, and accomplished musician, serving as organist for Germantown's Westside Presbyterian Church where his daughter Mary (my mother) occasionally pinch-hitted for him at Sunday services. The Jones tribe made their appearance in America in the early 1700s, bringing a series of distinguished citizens to the Philadelphia area including the statesman Samuel Carpenter and General Isaac Wistar, a true western adventurer and writer of the 1840s

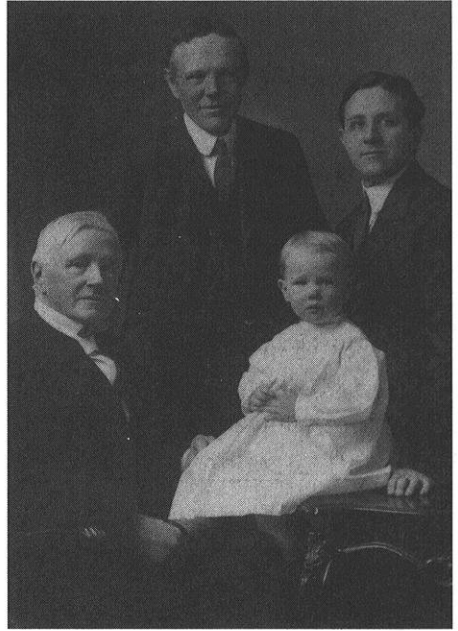


Figure 1. John T. Emlen Jr. as a very young boy with his father, grandfather, and great grandfather. Emlen Family Archives.

and later a military man who distinguished himself in the Civil War. Perhaps Cousin Ike's genes had something to do with the restless spirit of adventure that stirred me to my escapades of the mid-1900s as reflected in this little book and to my interests in the biological sciences, for among other things, he was the founder of the Wistar Institute of Anatomy in Philadelphia.

Emlen's earliest memories were steeped in Quaker life and tradition, and it did not take long for him to begin daydreaming about lands beyond America.

Among my earliest memories were Sunday morning walks to Grandpa and Grandma Jones' house on “Main Street” where we were occasionally permitted to play a few notes on Grandpa's pipe organ before crossing the street to the [Ger-

mantown Friends] Meeting House grounds. Friends (Quaker) meetings were generally silent affairs where we kids were encouraged to sit and try to focus our thoughts on beautiful and inspiring people such as Great Grandpa Emlen or Aunt Sally Moore, whose serene countenance was indeed inspiring.

Meeting was followed by Sunday school held in the neighboring Sunday school building, after which we would dash home to offer a hand of help to Lizzie Gamble, Mother's Irish kitchen helper. By this time Lizzie would be churning the crank on our ice cream freezer, a job that progressively became heavier and heavier as the cream slowly thickened into the semisolid state that we kids all looked forward to as the best dish of the week.

Sunday dinner was also the occasion when Father, as a member of the overseer's committee, would often round up some interesting foreign visitor or visitors after the meeting and bring them home to introduce to his family. People came with strange names and strange accents from Japan, Afghanistan, Lebanon, and other distant places that I was familiar with through my stamp-collecting enthusiasm. Those Sunday afternoons my sisters and brother spread out and displayed our amateurish stamp collections as the visitors entertained us with tales of their homelands, occasionally reaching down into a deep pocket to find a crumpled stamp. These Sunday occasions were very special for me, firing up my enthusiasm not only for stamps but also for the world of adventure in distant lands around the world.

Many a Sunday afternoon was spent in the company of his grandfather, great grandfather, and great grandmother at "Aunt Sally's house."

Grandpa was generally the center of attention. While Great Grandpa and Great Grandma sat quietly nearby, Grandpa was drafted to draw cartoons or

compose poems on the cardboards that we kids had brought along for the occasion. How I wish I had saved more of those Grandpa creations—generally clever and funny drawings of animals reminiscent of those he had drawn and had bound into a book for his son, my father, back in the early 1880s.

The Emlen kids lived a carefree life during summers, and John especially loved to romp around the family's

. . . big backyard, the main part being big enough for vigorous soccer games, and, on occasion, roughly marked out with lime as an unofficial, substandard-sized tennis court. A smaller unit surrounded by a low hedge sheltered five small flower garden plots. This consisted of a central circular plot with a bird bath and a swing surrounded by four smaller plots, one for each of us children. Suspended from a sturdy wooden frame, the swing was an idyllic spot to while away the hours after school or to tease little sister



Figure 2. Emlen at age 12 (back left) with his siblings, Sue, Mary, and Woodruff. Emlen Family Archives.

Mary or brother Woody by swinging them too high. For the winter months Father had a sturdy, 6-foot wooden toboggan slide erected with a slope that we would pack with snow. Here we would launch our Flexible Flyers at the top to dash diagonally across the yard and, when the ground was icy, around the west end of the house to the hedge on School Lane.

Emlen's first lively and soon-to-be-serious interest in birds began with the domesticated chicken.

Aside from canaries, pets were generally frowned on by my parents in those early years, but Grandpa Emlen had an old (30 years old) carriage horse named Queenie and a beautiful airedale dog

named Lassie that we children all loved. I apparently loved animals from the start and eventually wore down my parents until they bought me some pets of my own. The first was a Bullfinch that uttered a variety of largely unmusical chirps, and the second was a Shama Thrush that had a rather lovely song.

But my longing for more pets remained almost overpowering until my parents announced one day that they were presenting me with a flock of chickens. I can't remember what year that was, but one day a carpenter appeared with a pile of lumber and wire fencing and started building a chicken house and fence behind the garage. Mother looked on this as an introduction to business for me, and we made an arrangement, then and there, that I would start a bank account and, at an agreed-upon price, sell the eggs to her and buy the feed, a protein-rich mash called Lay-or-Bust guaranteed to produce eggs.

Seven beautiful hens, white Plymouth rocks, were established and promptly given names suggested by their physical traits. Grandpa Emlen commemorated this start of my ornithological career with one of his poems:

*My chickens are seven;  
If I had four more, there would be  
eleven.  
The hens lay eggs; the rooster crows;  
They scratch for food with their fingers  
and toes.  
They roost up high, as chickens should,  
Then walk down stairs on a stick of  
wood.  
They take a drink from a clean tin  
pan,  
And then get busy as fast as they can.  
When Johnny comes out in the early  
morn,  
He gives them water, sand, and corn.  
And when he sees they're warm and  
dry,  
He shuts the door and says, "Good-  
bye."*

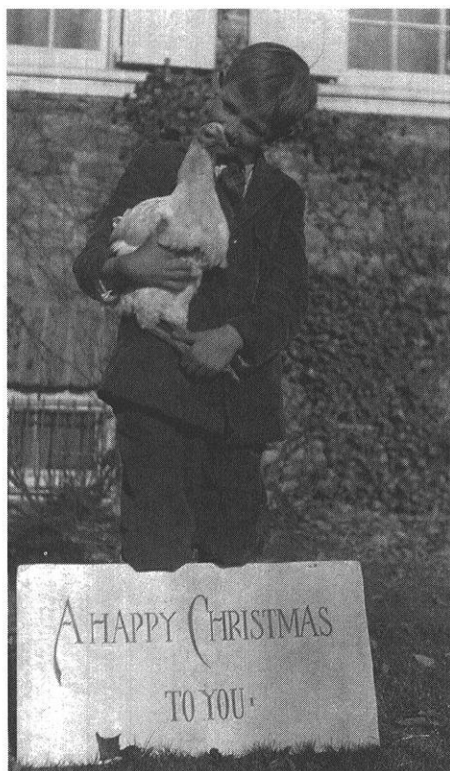


Figure 3. Emlen and pet chicken, Germantown, Pennsylvania. Emlen Family Archives.

Starting immediately, my daily before-breakfast chores included scraping the dropping boards under the roosting perches with a hoe, putting the scrapings into a manure can, dusting the boards with sand, removing fouled straw from the floor and the outdoor hen yard, and distributing feed and fresh water in the appropriate containers. Then I had time to get acquainted with my flock, usually sitting down with one of my favorite hens on my lap until a cry of "Breakfast's ready" came from the kitchen. I got to know each bird intimately by physical, primarily facial features, yes, and by voice. Each bird had a distinct personality and I came to have my favorites and my dislikes. They, furthermore, seemed to recognize my reactions to them and respond. (Seventy-five years later, as a professional animal behaviorist, I remain puzzled and fascinated by those memories, still rather vivid in my mind.)

Eggs soon appeared in the straw-filled nest boxes on a lower shelf, and I proudly brought them in to Mother for family consumption. As the season advanced, egg production increased until there was often one egg per day for each hen. I was in business and I loved it; the chickens were a real success for which I somehow felt a great deal of responsibility.

As spring weather came, some of my chickens began to crouch when I approached and to develop new and strange clucking sounds. This, I came to realize, was a sign of the broody condition. My chickens were capable of raising chicks, but for this I was told the attention of a male would be required. The idea did not appeal, but I yielded after my father explained to me the facts of life and reproduction in animals. My chickens were teaching me the fascinations of the world I lived in.

That spring I built a chicken coop, a roomy wooden box with vertical slats in front to keep the mother hen inside while her brood of tiny chicks would be

free to wander outside into a 6- by 2-foot screened runway. A dozen fertilized eggs, collected from the hen house after the rooster had done his job, were placed ceremoniously on a soft bed of straw in this box under my favorite hen, Methuselah Jane, who sat there patiently, protesting any time I disturbed her, for 21 days. On the twenty-first day, tiny peeps could be heard when I carefully raised the coop's lid. Within a few minutes a tiny yellow head appeared from under Mussy's wing. The miracle of life had happened right here in my homemade chicken coop. The next day, 12 chicks were there, cautiously venturing out from under their mother to explore the world of the coop and what lay beyond in the mowed lawn on which the run had been placed.

In the following years more chicks were raised, and my egg business boomed, producing more than our family of six could consume. But now there were new problems. That big rooster resented my intimacies with the hens, which he recognized as his personal property. Unfortunately his responsibility did not extend to the cleaning and feeding with which I was charged. My shins became black and blue as he charged at them, pecking and beating them with his remarkably bony wings. My only defense was to kick him away. But despite my best kicks, which sometimes catapulted him clean across the chicken yard, he invariably returned with even greater determination. Something had to be done! I consulted Father who suggested that it might be necessary to kill him. This horrible thought was at first unthinkable, but as the days went on and my shins got bloodier, despite the protection of long pants and specially designed shin guards, I conceded.

One day, [local hired hand] Alec was instructed to bring out the axe, and the following Sunday we had roast chicken for dinner. I had learned another of life's cruel messages: painful decisions



must sometimes be made at the sacrifice of fondly held principles. The death of any animal or bird was always very hard for me to face in those early years, particularly when my little chicks died. I buried each tiny corpse with a little wooden cross against the back fence and shed genuine tears of grief before I slowly came to realize that death is just an aspect of any life in the real world and must be accepted.

There was certainly more to life than what occurred in Emlen's backyard, as he soon discovered during trips in the family's first automobile. In those early years, cars were still novelties, he recalled. And how easily forgotten it is that horses were an important part of the local economy, even during the first two decades of this century.

Horses were still abundant, pulling a variety of carts and delivery wagons. Their clop, clop, clop was a familiar sound from my bedroom in the predawn hours, the bobbing light from their gas or kerosene lanterns on my bedroom ceiling closely matching the sound of the horseshoes on the cobblestone pavement. Mother remembered from her childhood how the streetcars of that period were horse-drawn. The world had come a long way since that time.

Our first family car, a 1919 Dodge touring car, was a pride and joy. Big enough to seat the whole family of six, it was driven by Mother every Saturday morning to Costello's market on Spring Garden Street, a 14-mile roundtrip through scenic Fairmount Park along the Schuylkill River with its many bridges and monuments. Along the route were several flowing springs with pipes spouting clear, cold water from the mouths of carved lion heads. Here we would stop to fill a couple of 5-gallon water bottles. Our tap water at home was strongly chlorinated, an early response to the pollution that was already a problem in Phila-

delphia. Our principal activity as passengers, however, was identifying the cars that we passed, especially the huge Pierce Arrows and an occasional Mercedes or Rolls Royce.

My attention on these Saturday morning trips was also drawn to the flocks of ducks swimming on the river. From our family bird book, a little paperbacked Reed's bird guide, I discovered that they were American [Common] Mergansers. I was particularly curious to note that there were many more of the brown-headed females than the handsome green-headed males, and I wondered why. These birds and others that I encountered on walks and sketching trips with Father in the upper or Wissahickon portion of the Fairmount Park awakened an interest in birds that was to influence my entire life.

Early on, school life held little of Emlen's attention. Instead, he found himself increasingly drawn to birding.

School was a bore. I hated it, but pressures from the teachers and my parents were such that I only played hooky once, and I found that even more boring. I went to kindergarten at age four, but my parents were advised that I should repeat it. The reason given: I had pulled the little girls' hair and perhaps might learn better manners with a second year of the discipline. . . .

My best school friend, Ben Hiatt, shared my interest in birding in the Wissahickon "wilderness" areas, especially the cavelike recess under Walnut Lane bridge where we had a secret hide-out. Breininger's Hill, a rather desolate hilltop, also had its peculiar charms. Here in the spring we would take our butterfly nets and collect a few sulfurs and mourning cloaks. In winter we would take our Flexible Flyer sleds to the hill and dash recklessly down the steep slope out onto the thin ice of Wissahickon Creek near the historic Rittenhouse Mill. My friend-





Figure 4. Emlen family expedition in Dodge touring car, circa 1919. John Jr. is third from left. Emlen Family Archives.

ship with Ben continued as our serious interest in birds developed through the high school years. That common interest led to many expeditions around Germantown and later to the New Jersey shore and elsewhere.

In addition to birding and natural history, young Emlen's other passions were stamp and cigar band collecting and photography, which he pursued by setting up a makeshift darkroom in the basement.

The old [cellar] coal bin was converted into a darkroom with wall boards extended to the ceiling and with the installation of a sink, basic plumbing, a red darkroom light, and a simple enlarger made from an old-fashioned view camera. In spite of the light leaks that I could never seem to completely eliminate by dousing all other cellar light, or control with a big red, threat-of-death sign at the top of the cellar stairs, I got what were, for me, reasonably acceptable results with developing trays and a homemade easel mounted on a railroad car from our Christmas train.

Soon, the inventive boy wonder was moving beyond photography and experimenting with radio transmissions.

. . . my friends and I learned the basic elements of crystal radiography and found a simple model for mounting the elements of crystal sets on a 6- by 10-inch board. With each set we would climb up and mount a 75-band antenna with lightning arrester on the roof of any neighbor's house if we could convince the owner that he really wanted a radio and that it was safe. By poking blindly with a wire prong into the crevices of a small crystal in one of these sets, we could usually find station WCAU in Philadelphia and occasionally, with luck, WEAJ in New York or even KDKA in Pittsburgh. With simple five-dollar earphones clamped on our heads we would exclaim with triumph as we demonstrated our skill and triumphantly turned over the headset to the bewildered customer.

But it was the natural world that increasingly fascinated and attracted Emlen; something encouraged by weekend and summer trips to a rented

house at Buck Hill Falls in the Pocono Mountains, about 100 miles north of Germantown. Then, in 1915, to accommodate a growing family (there were now six kids), his father designed and contracted the building of a large house at Pocono Lake Preserve, about 12 miles from Buck Hill, and about a mile from the preserve's newly constructed headquarters, which among other things included a dining camp and tennis courts. Here, amidst a bucolic setting, young Emlen became truly enraptured.

For me this new site was paradise: deep dark spruce forests where hundreds of red efts roamed the needle-covered ground and where birds of many species nested and foraged overhead; sunny grass-bordered roadways where butterflies, grass snakes, garter snakes, frogs, and toads abounded; and a lake with fish and unlimited opportunities to swim and

boat. A pair of huge barnlike icehouses across from our house were an eyesore for perfectionists. But they were no problem for me and my interests in exploring and getting acquainted with, at least what I saw as, the world of nature. We moved in that summer, and for the next ten years, we spent our school vacations there.

Father still had to return to Philadelphia by train during the week but came back on Saturdays to join in our fun, to indulge himself in the tree trimming that was required to maintain a view of the lake, or to play a few sets of tennis with his friends. Grandpa Emlen, however, had retired and was a full member of our inner family. Some of my best memories were of fishing with him for sunnies, perch, and an occasional bass off our dock. We were supposed to come back to the house at dusk, but often we were detained by a good run of catfish or an especially big bass. We usually used worms dug near the icehouses, or grasshoppers



Figure 5. Emlen summer home (designed by John Jr.'s father) in the Pocono mountains of Pennsylvania, showing cupola, sleeping porch, and John's sisters on front step, circa 1926. Photo by Mary Carpenter Metz.

caught in Wagner's hilltop pasture up Wagner's Run.

After 1919, when we had our own car, we would drive up from Germantown at six in the morning, Mother in duster and cap, Father, sitting beside her, reading the AAA tour book. This wonderful book described not only all the towns that we would pass through but also each turn we were supposed to take, the school houses, churches, or large trees that served to identify these turns, and bits of history about the villages, graveyards, or churches we would pass. Once we arrived at the Pocono house we would rush to turn on the water, take down the tight wooden shutters built for winter storms, and open up the cupola at the top of the steep wood cupola stairs. Then, if time permitted, we took a dip in the cold water off our dock and perhaps sampled the fishing prospects at dusk.

If it was too late to cook a supper we would phone the preserve headquarters and take the 20-passenger *Heron* or, if, as often happened, that handsome boat was out of commission, the smaller *Perhaps* down to the dining camp. There we had a delicious meal with our friends, often ending with a scrumptious piece of strawberry shortcake or a slice of even more scrumptious huckleberry pie. These were the preferred desserts of the Reds and the Blues, respectively, the two teams into which all members of the Pocono Lake Preserve were equally divided for a full program of summer sports and athletic competitions. Even those who, like us, lived far from this center of activities and rarely were present to participate, knew the team they belonged to and supported their side vigorously in the ongoing competitions.

I enjoyed such competition as a loyal Blue 11-year-old, but I was more interested in the ever-present opportunities to explore the woods and the old logging trails that led through the seemingly endless miles of forests, bogs, and mountain pastures. I particularly loved the

shallow, flooded areas at the inlets of the Tobyhanna and Tunkhannock creeks where rising water from the dam, 5 miles downstream, had killed the old trees, creating stumps that provided nesting cavities for tree swallows and bluebirds and where a family of beavers had their home up against a steep bank. Rowing as quietly as our squeaky oar locks would permit, Grandpa and I might surprise one of the residents of this house, swiftly gliding back with a freshly cut log. Generally he or she seemed unaware of our presence until suddenly a loud slap of the tail announced that the beaver was indeed aware of us and probably resented our intrusion. I was obliged to stick with our squeaky old rowboat until I could swim the quarter mile across the lake in front of our dock. Only then was I permitted to take out *Sujomawo*. A blend of our names, *Sujomawo* was the beautiful green Old Town that was tied to a stump in our canoe slip.

Until that day Grandpa and I would row down to the post office for the mail almost daily, past a recently abandoned eagle nest that seemed to reflect how the wilderness legacy of early times was disappearing. Great Blue Herons were still present, however, and often we would flush a female merganser. One bird that we used to see occasionally that was lost for several decades, but is now (1990) back with conservationists' help, was the Osprey, that gorgeous, eagle-like fish hawk whose thrilling cries and plunges from the sky for fish were always a joy to behold.

Sundays were days of rest, or at least, relative rest. Quaker meeting services were held in a beautiful grove of old spruces, hemlocks, and maples, an appropriate and inspiring setting for contemplation which in my early teens I was beginning to appreciate. Even more appreciated by my young mind were the song services in the evening, when 20 or 30 of the summer residents assembled on a semicircle of wooden benches to

sing good old-time hymns as a pump organ attempted to keep us together. Best of all were the times when the Hampton singers joined in. Workers at our dining camp, these singers came from the Hampton Institute in Virginia where Father had taught before I was born. This chorus of gorgeous voices, ranging from high sopranos to thundering double basses, exposed us to a wide variety of beautiful spirituals, music that made a profound and lasting impression on my young ears.

Local excursions from our cottage included trips to the bridge across Wagner's Run where a short trail leading down into the creekbed provided access to the stony bottom with its gurgling flow of crystal clear water. Inspired to present our old Dodge at its beautiful best, we took it down for a bath every week or so. Each family member, equipped with a bucket, rags, and sponges, would plunge in with no thought of trying to remain dry. With no windows to roll up, the isinglass curtains protected the car's interior as the bath was initiated with buckets-full, followed by a frenzy of spongy swipes over the body and brisk scrubs around the discs and frames of the wooden-spoked wheels.

We all were berry harvesters, and on these excursions we were usually joined by Lizzie and Izzie Gamble, the two Irish girls who spent most of those summers with us at Pocono. We particularly liked blueberry picking, and I often imagined myself in these activities as a primitive Indian harvesting the crop as an essential source of food for the family. Blackberries were also numerous in August. Elderberries were picked by the fistful from the large clusters of tiny fruits on the flower heads, then placed in cheesecloth bags. These bags were vigorously squeezed until our hands were red with the juice, and then were allowed to drain into a pot to provide the basis for a delicious jelly.

A chain of three small islands, origi-

nally three hillocks before the dam was built, provided sites for overnight camping expeditions less than a quarter mile from the house. Sleeping bags were unknown to us at that time, but old army blankets, held together with huge blanket pins, spread out on a thin layer of pine or spruce needles provided the essentials for a bed much preferred to a real bed or an army cot in the house. Mother or Father usually would go out with us to share the hot dogs or can of baked beans that was hastily assembled for the occasion. They then left us kids to our devices and returned home where they could listen for cries of distress or could summon us if necessary with a big bell that hung on the front porch.

For rainy days we had a huge fireplace, the front of which opened to our living room and the back to our back yard. Peering out from a window or standing out on the porch under the sheltering roof, I would listen to the tree frogs tune up or the "rain crows" (Black-billed Cuckoos) sound off with their weird croaks. The start of a rain also might rouse a few beautiful arpeggios from one of the Hermit Thrushes that nested nearby, or if it was dusk, from a Whip-poor-will somewhere off in the forest.

On these rainy days my sisters usually settled down on one of the cushion-covered benches that rimmed our living room at this time, and I would rather reluctantly join them. I never really liked reading much and rarely read just for the fun of it. Mother was distressed at this and assigned the hour after lunch as a reading period each day. I used this hour for bird study, bringing down volumes from the well-stocked shelves in the living room, especially the two-volume *Birds of New York* by E. H. Eaton with its beautiful Fuertes plates or the 1912 edition of Chapman's *Handbook of Birds*. I was fascinated with birds' scientific names and spent much time learning these. I thoroughly enjoyed adventure books such as Jules Verne's *Journey to the Center of the*

*Earth* or Johann Wyss's *Swiss Family Robinson*, but I found reading of any kind strenuous and tiring. Many years later I slowly came to realize that I must have had and still have a form of dyslexia, a problem still poorly understood.

One memorable Pocono experience involved photographing beavers at night, not a simple affair by any means in those days.

One winter a good many years later (1925), after I had developed an interest in nature photography, my father, always alert to my boyish enthusiasms, discovered that a friend of his had a hobby of flashlight photography of wildlife. He told this friend about my interests and a few weeks later this gentleman, Henry Rex Carey, asked me to join him on a wildlife photography winter trip to the Poconos. Furthermore, he instructed me in the fine points of "camera trapping" as they were developed at that time. He helped me design and build the basic equipment needed including a camera box and a flash gun with a powder tray. The latter was connected to a trigger wire leading to the point where the prospective animal would trip the entire mechanism and take its own picture. Armed with two camera traps we travelled to a well-known beaver dam down creek from the Pocono Lake dam and set out our gear. Some time during that night the beavers tripped and took their photos, souvenirs of a wonderful experience and a thrilling adventure in natural history.

Emlen's Pocono experiences left such an indelible impression that he found himself thinking about them throughout his life and career. Indeed, his interest in bird study can be traced back to this period, as well as to the influence of a "nature study teacher, Miss Trueblood" when he was eight or nine years old. His interest in birds was

much more than mere hobby; it was full-blown passion and an unbridled dedication characterized by a marked attention to detail that was most unusual for a young teenager.

My first notebook presented a systematic list with dates from 1919 when I was ten. It listed 51 species including such interesting identifications as hoot owl, poll parrot, wild duck, petrel, and crane. In 1920 I had 80 species listed, all of them recognizable and more or less correctly spelled. Two years later I was keeping daily lists at Pocono, checking what I considered the special finds and planning special trips for what I regarded as rarities. By 1924 I was keeping notes on field identification marks and describing songs quite creditably with words and personally devised symbols.

During these years my birding was restricted largely to afternoons after school was out, Saturdays, and Sunday mornings before the required ten o'clock return for Quaker meeting and Sunday school. I soon came to recognize that birding was most satisfactory during the first hours after sunrise. I was up with the sun practically every day to hop on my bicycle and dash out for an hour or so at Breininger's Hill, Gypsy Lane Hill with its Yellow-breasted Chat, or the Queen Lane Reservoir with its mergansers. On Saturdays, Ben Hiatt or brother Woody often joined me for a trolley ride to Mt. Airy or on to Chestnut Hill and Whitmarsh Valley where a wide variety of relative rarities might be found such as Barn Owls, Long-eared Owls, Wilson [Common] Snipe, and Grasshopper Sparrows. Identification and subtle field marks of both color patterns and songs were seriously studied and discussed on these trips.

When I was fifteen (1926) I applied for and, surprisingly, was issued a federal bird banding permit by the U.S. Bureau of Biological Survey, allowing me to capture and band birds of almost any species. Permit conditions were that I had to





Figure 6. Emlen family in front of pull-behind camper trailer during camping trip (about 1921). Emlen Family Archives.

be able to identify each bird with certainty and had to keep and submit meticulous records on each bird I banded to the central office in Washington. A set of numbered bands, 50 of each small size and 10 of the larger sizes, was provided, and I was in business!

The best way to capture birds was to trap them in wire cage traps. I quickly acquired—with my weekly allowance of 50 cents—a small roll of hardware cloth, with which I made a funnel trap and several drop traps. The few sparrows and starlings that entered these traps provided much excitement. But I longed to band migratory birds such as robins that did not respond to the standard baits, birds that would leave each year, perhaps to return another year. For such birds with a history of travels I would receive postcard reports from the Washington headquarters! Nestling birds taken from their nests a day or two before they fledged provided such opportunities, and for several years I added nest-finding to my ornithological activities.

But further opportunities were constantly presenting themselves. One day Ben and I discovered a robin-blackbird

roost in Cresheim Creek valley only a mile or so from home. Here thousands of grackles, starlings, and robins, plus a smattering of other species swarmed into a grove of 15-foot pine trees every night during the spring and fall migration seasons. Ben and I saw the challenge and grabbed it. Many of the birds, particularly the robins, were only 6 to 10 feet up. Hastily we designed a clap net consisting of a vertical pole and two wing poles between which a net would be stretched. Roosting birds, dozens of them at a time, could then be flushed into the net by a helper, the net gently closed and lowered to the ground by the operator, and the captured birds banded. What could be simpler?

A clap net, as described in a bird-banding bulletin, was to be constructed with 12-foot slender bamboo poles and lightweight fish netting. Of course, we did not have these materials at our disposal. Available substitutes were three rather heavy wooden clothes poles from the back yard and a segment of tennis netting used in the tennis ball backstop on our porch. Although a clumsy and awkward substitute for the clap net described



in the bulletin, this contraption would presumably fill the bill.

Armed with this awesome rig Ben and I proceeded to the roost one dark evening. Perhaps not surprisingly this first trial run was not a success. Ben crept silently into the dense pines from behind while I, a flashlight held in my teeth, stood waiting on the bordering lawn area, poised to pounce when the first bunch of birds burst forward into the net. The birds flushed, I pounced, and I missed.

More seriously, however, the poles were so heavy that I fell forward with their weight, the pole bases neatly lifting out the entire seat of my pants. After disentangling me from the pile of belts, poles, and torn pants, we drove home. I was sixteen now so fortunately we did not have to return by trolley in my condition!

We now reorganized our approach. With headlamps, a revised clap net, and a new pair of pants, we returned on subsequent nights and with great success. Over the next weeks we captured dozens of robins and grackles, smaller numbers of starlings and cowbirds, and one phoebe, Yellow-billed Cuckoo, and, yes, a Sharp-shinned Hawk. My banding program of migratory birds was now firmly established.

In 1925 Ben and I discovered that the Reading Railroad was offering Sunday excursions to the New Jersey coastal resorts for fishermen for a dollar fifty, a price that Ben and I could afford. My parents hesitatingly approved. Taking the Germantown local into the Reading terminal and the Delaware River ferry to Camden, Ben and I hopped on these excursion trains. In an hour or so we were down at one of the ocean beaches: Ocean City, Barnegat, Avalon, or Cape May, checking for sea birds or shore birds in the winter months or, with a batch of bands in hand, for the nesting colonies of night herons or the treetop nests of Ospreys. We banded dozens of these birds and over the following years

were receiving the reports from Washington, citing recaptures and recoveries from as far away as Brazil and Uruguay. With these reports and my stamp collection, I now felt myself a citizen of the world!

After I acquired my driver's license at age 16 (1925) I was requesting use of the family car almost every weekend. Sue, a year older than I, was jealous but without the demands for personal transportation that I voiced. And, in 1926 she was off to college and out of the competition. So, unless my parents had important priorities, I and my birding buddies—brother Woody, cousin Hank Bennett, Ben Hiatt, and Bill Doak—often had the necessary transportation for overnight trips to the New Jersey beaches, the Delaware City marshes, or Maryland's eastern shore. I was already familiar with the beaches and salt marshes from Cape May and Stone Harbor to Ocean City and Brigantine from our earlier railroad excursions. Now, with access to a car and family camping equipment, I was essentially free to pick up and go birding whenever an open weekend came up.

There were few problems finding campsites in the 1920s, and we rarely had to worry about obtaining permission. I recall one Friday evening when we failed to reach our planned destination, a tiny woodland cemetery lot near Marydel, Delaware until nearly dusk. We had camped there the previous year. While Hank and I were starting the campfire and preparing the hamburgers, Woody and Ben were unrolling the sleeping bags and starting to lay them out in four shallow, linear troughs that marked four collapsed graves, each headed with a small grave marker. Suddenly a tall dark stranger appeared and, saying nothing, sat down on a gravestone. We greeted him and after a brief silence, proceeded with our chores.

Then after several more minutes of slightly tense silence, he spoke up: "Where you fellows from?"

"Germantown," we replied. "Just a bunch of birders on a weekend outing."

Another long silence. "You were here last year, weren't you?" he asked.

"That's right," we volunteered, "and didn't we see you as we were leaving?"

"Yep."

"And who are you?" we asked.

"Oh, I'm the preacher in the little church down the road," he volunteered.

Within a few minutes our hamburgers were done, and he quietly accepted one. "Come again and make yourselves at home, any time," he said, and he walked off into the darkness.

I wonder if a similar encounter would have been so friendly today. Would we or could we walk as freely and as self-confidently in such a situation in the 1980s or 1990s? And, would we be greeted with as open a mind?

On another weekend outing, this time to Delaware City, a favorite birding site near the head of the Delaware-Chesapeake Canal, we camped at the edge of a grove of huge elms in which about 50 pairs of Great Blue Herons had their nests. Among these trees was a huge dead chestnut tree, the leafless corpse of one of the many chestnuts that had dominated the eastern forests only a few decades earlier. And, in the top of this chestnut a Great Horned Owl had its nest with two large nestlings. All through that night the herons filled the darkness with groans and shrieks of alarm each time the owls came in or left.

By morning we had decided that those baby owls must be banded. After a rather risky ascent with climbing irons and a safety belt, we reached the nest. The owlets were lowered to the ground in a cloth bag, banded, and returned. Next weekend we were back for more birding and a check on our owls. The owls were gone, and so was the chestnut tree! After an obviously long lifespan plus many months, if not years, as a gaunt arboreal skeleton, that old monarch had fallen down obviously within a few days of my

ascent to its crown to band those little owlets. Neither they nor I could guess how narrowly we had escaped the final demise of that ancient monarch with its current residents.

The New Jersey coastal beaches and the tidal marshlands and vegetated ridges behind them were full of interesting birds. A stretch of sand dunes on Brigantine Beach had been selected by distinguished ornithologist J. Fletcher Street as the staging area for a movie he had visualized as entertainment for the annual banquet of the American Ornithologists Union meeting to be held in Philadelphia that year—1925. To make this movie he needed some Great Auks—giant, flightless seabirds exterminated by early egg collectors in the North Atlantic in the 19th century—and a couple of "cavemen hunters." A string of cardboard models filled the first requirement, and for the cavemen he conscripted Ben and me, to be dressed in a couple of old bear skins he would borrow somehow from a museum. We were instructed how we should emerge from behind the cover of dense myrtle bushes with bows and arrows, while the auks were pulled slowly across a small clearing. All went well for the preparations, except that the selected day turned out to be extremely cold and windy for which the bear skins were scanty attire. Despite basic precautions Ben and I nearly froze. The pictures were shot, but the two teenage actors finished their assignment in a condition that caused Fletcher considerable worry. Desperately, he tried to deaden our discomfort with a swig of brandy, our first experience with this tried and true antidote. The actors survived without injury or regrets, and the distinguished scientific audience that viewed the film a few months later was well entertained by this little episode of historical ornithology.

Emlen's birding pursuits "left me little time for girls, and I was, frankly, not

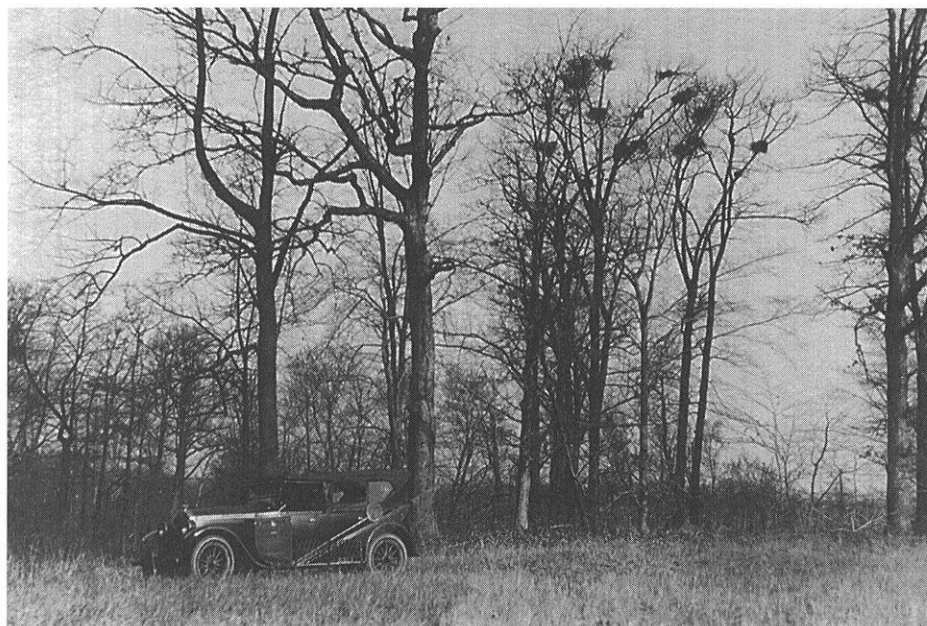


Figure 7. A birding expedition to a Great Blue Heron rookery at Delaware City. Emlen Family Archives.

much interested. Katherine Sonneborne, ‘Sonny,’ was fun at parties and on picnics, but I saw her only occasionally. I hated dancing and avoided dressy parties whenever possible. Many years later, Sonny, then at Swarthmore College, introduced me to Jinny Merritt who changed my outlook on girls and eventually wound up as my wonderful wife.”

He continued to struggle with school; he simply wasn’t interested, and perhaps his dyslexia, unknown to him and his parents at the time, was complicating matters. He recalled his high school years this way:

My school performance through the high school years at Germantown Friends’ School was a near catastrophe. In academic subjects—English, history, and arithmetic—I generally earned Bs or Cs; in French and Latin my grade was

often a D. Only in physical education, science, and “sloyd” (a carpentry exercise) did I pull an occasional A. Somehow I hoped that G.F.S. graded more harshly than other schools, but my sisters and many of my friends did far better than I, and with college entrance exams coming up I was worried. At the end of my senior year I took four college entrance exams, and I flunked three of them!

I had my heart set on Haverford, a college with very high standards, and I was not going to give that up easily! I had followed Haverford’s performance in sports and even in academic activities for several years. I had also ridden my bicycle the 10 miles to the campus to see several football games. I just had to go there! Perhaps my parents had been right: “There are other things in this life besides birds”! What could I do?

Father made an intensive inquiry and discovered a tutor in Philadelphia with special qualifications who would take me



Figure 8. Emlen climbing to a Great Horned Owl nest in the Delaware City heronry. Emlen Family Archives.

on for intensive work on the two exams I would need to repeat, French and English composition. I started immediately and a month later took the exams. Amazingly I passed both, and even more amazingly, Haverford accepted me.

Emlen's father, always keen to the expanding needs and wants of his children, decided to purchase in 1924 "a one-third share in a small, rustic shack on the Mt. Misery branch of the Rancocas Creek in the pine barrens of southern New Jersey, only 45 miles from home." Life in the pine barrens exposed John Jr. to an entirely new part of the natural world.

To get there we merely had to take the Delaware River ferry and head due east

through Mt. Holley and Pemberton to the railroad station at New Lisbon. When going as a family we drove the rest of the way, but sometimes my parents would take me as far as New Lisbon, then I would go on by myself. That part of the trip involved a one-hour clackety-clack railroad trip and a one-mile walk along a sandy, wilderness road from the station where the engineer would stop if properly notified.

There are few places in this world that in the 1920s could still boast the wilderness features of the New Jersey pine barrens so close to a major modern city. Our cabin stood on a high bank of the creek a half mile from the nearest neighbor. We could plunge directly into the chilly, deep current to be swept downstream in the swiftly flowing, cedar-colored water. We could also launch a canoe, the bow man primed to ward off snags and fallen logs at every point, while the stern peddler leaned first on the right, then the left in attempts to stay in the narrow, 10- to 12-foot channel. This involved a strange kind of paddling: dodging or ducking obstructions every 10 or 15 yards, often "turning turtle" or capsizing. Far different from what we had known in the placid water at Pocono, this canoeing brought challenge and excitement that we came to love. The big problem was to get back; often it was easier to beach our canoe under the bridge a mile downstream and carry it back on our shoulders.

There were many streams of this type winding tortuously through the nearby peat bogs. Some were a little wider than our Mt. Misery stream, but many were just too small to float a canoe. On one occasion, a young teacher from Penn Charter School, Hen Evans, and his wife, rounded up a small group of wilderness addicts (including me) from several Philadelphia schools and challenged the Wading River from a launching site not far from New Lisbon to its outlet into the Tom's River estuary where it enters the



Figure 9. Cabin on Rancocas Creek in the New Jersey pine barrens (near New Lisbon) where Emlen's family spent many weekends (1924). Emlen Family Archives.

open tidal grasslands. It was a five-day trip with many thrills and many spills. No one could guess how many miles we travelled in those five days, but because of the river's snaky course, we covered only about 20 miles on the map and ducked under only two small wooden bridges, no highways!

Ever aware of his son's interest in birds, Emlen's father did everything he could to foster that interest.

Father was constantly getting ideas on how he might help me promote my progress in ornithology. Discussing this one day in 1925 with Witmer Stone, ornithologist at the Philadelphia Academy, he came up with the idea that I might be admitted to the summer school course at Cornell University in Ithaca, New York. This course was being taught by Dr. Arthur Allen, the foremost, in fact the only, professor of ornithology in the country

at that time. As a high school boy I could receive no credit, but I could live my hobby, and, rubbing elbows with serious students and graduate students, see what ornithology was all about.

The idea was a great success. I attended lectures, studied museum specimens, read the bird literature of the period, and took field trips. Most exciting for me, I also learned the essentials of bird photography, using my hard-earned Graflex. My fate was sealed; there was no turning back now. Father had undone any progress he may have made in convincing me of the truth of his argument that there were other things in this life besides birds. With just one more year of high school I was going to have a hard time maintaining even a respectable grade point, adequate to make it to college.

The following summer, 1926, we made arrangements for a family trip to En-





Figure 10. The summer ornithology and advanced ornithology classes at Cornell University in 1925. Arthur Allen and his wife, Elsa, are in the center (Nos. 46 and 45). Emlen, still a teenager, is in the back row (No. 2). Photo courtesy of A. A. Allen Archives, Division of Rare and Manuscript Collections, Cornell University.

gland and Scotland. We would sail from New York on the Holland-American liner, the *New Amsterdam*, and dock at Southampton. Then, while Father and Sue went on to Paris, Mother and the three young'uns would take a train to Cornwall and find quarters at the Housel Bay Inn at Lizard Point, on a high rocky cliff near Land's End. Recognizing the previous summer that this trip was under

consideration, I had made a special point at Ithaca to look over books on English birds and examine whatever specimens of English birds were available. I also primed myself on petrels and shearwaters—sea birds that we might see from the *New Amsterdam* on the crossing.

I kept a careful dairy of that whole trip, filling 260 pages of a 6- by 9-inch notebook with descriptions, notes, and daily



bird lists and sketches. The diary also included an appendix covering meals, weather, animals, gardens, parks, traffic, customs, habitat types, towns, cities, flowers, mammals, and, of course, birds of which I identified 129 species. The whole notebook was meticulously indexed with 13 pages of index items from "Abbey, Glastonberry" to "Zoo, London." That indexing job alone must have taken a good many of the 10 days of our return boat trip between Southampton and New York.

Most of those pages are terribly dull, long lists of scientific names of the birds I identified. I felt that it was important to list both the common and the Latin names, along with other details such as when we arose (generally half past six), what we had to eat, etc. But I also recorded a number of interesting, exciting, or just amusing adventures that I shall briefly relate.

On our first morning at Housel Bay, Woody, then only twelve, and I were up at sunrise. We scrambled down the slippery and often crumbly cliff in front of the Inn to its base where many gull chicks, still flightless, were hiding in rock crevices or swimming out into the surf. Unfamiliar with such situations, the first we had ever encountered, we were at first concerned that many of these young birds were in danger of drowning or being dashed against the rocks. We tried to rescue them, but after gradually becoming aware of the folly of such efforts, we turned to watching the sea urchins and crabs that were scurrying among the boulders.

After perhaps an hour of such fascinating activity we suddenly realized that the tide was rising rapidly and had already flooded the pathway by which we had come down the cliff. No other proper escape route was visible, and we were already late for breakfast at the Inn. We looked down at the surf just as a huge breaker sent spray over our feet and eyes. Then, a bit worried, we looked up. There

was a possible escape route up the nearly vertical cliff where an old clay pipe had at one time served as a drain for waste water from the Inn. It took us almost an hour (or was it really only 15 minutes?) to scramble up that pipe and make that ascent, but we were happy to arrive before the breakfast room had closed its doors, and so was mother. She did not know where we had been and gave us stern instructions to report our plans every time before we went out again. We did our best, but it is, of course, impossible to know just where a birder might stray when he goes birding, and I'm afraid this was not the only time we were late for breakfast and not the last time we got a scolding.

Several years before our trip to England I had read a book by the 18th century clergyman, Gilbert White, who with his contemporaries was puzzled as to just where swallows and other birds went when they disappeared in the fall and whence they came in the spring. Some speculated that they dug down in the mud at the bottom of lakes to hibernate, others proposed that they flew to the moon, and still others that they just flew south to warmer climatic zones in Africa. It was amazing to me that such questions were still being discussed and that the phenomenon of migration had not been demonstrated clearly as recently as two hundred years ago. In any event I wanted to see Selbourne, Gilbert White's hometown. So I requested that we include it on our travel itinerary, along with such places as Stratford on Avon, after we had rented our touring car for the circuit of England and Scotland. Selbourne was disappointing. We couldn't find Gilbert White's house; no one we could find in the town had even heard of him. "Maybe bird people aren't as important as you seem to think they are," my sisters suggested.

One morning near Tintagel, the presumed site of the legendary castle of King Arthur, I found a small rocky islet

just offshore, on which hundreds of guillemots were crowded and apparently nesting. It was separated from the mainland (also steeply cliffed) by a channel which, although swirling with surf, was quite narrow. I had, by this time, seen many of these sea bird islets along the Cornish coast, and I was seized with a passion to see the guillemot nests, which must be densely clustered along the islet's rocky ledges. Alone, I scrambled down to the water's edge and plunged into the surf. There was a lateral current that I had not noticed, and suddenly the channel seemed wider than I had thought. Swimming back to shore and climbing up near the point I had just entered, I gazed longingly across at those birds. Perhaps it would have been very difficult to climb up on the islet's cliffs. In any event I gave up, never to see a guillemot's nest until I got to Bass Rock nearly a month later. Mother approved when I got back to the inn, and she strongly advised that I not try it again. In that brief trip in the islet's channel I got my first sting from a jellyfish, an experience that reinforced Mother's advice for me.

Bass Rock, a huge crag, rises precipitously in the Firth of Forth some 20 miles east of Edinburgh. Famous for its [Northern] gannets or "solan geese" that have nested there since time immemorial, and for which these spectacular birds were named *Sula bassana* by Linnaeus, it has been a favorite site for bird watchers from around the world. Obviously we had to see the island and its birds, so on our first day in Edinburgh Father, Woody, and I set off. Driving to North Berwick, we hired an outboard boat and headed for the huge white rock a few miles offshore. Kittiwake gulls and Arctic Terns circled around us as guillemots and Razorbills skimmed by. As we approached it became clear that the white color of the rock was created by the thousands of big white birds and by the

background of whitewash they had sprayed on the cliffs.

Bass Rock had a lighthouse, and its keeper greeted us and, very proud of his assignment to the island, took us on a tour of the most accessible nesting areas. The gannets were everywhere, each bird separated from its neighbors just far enough to be out of range of the vicious jabs of their huge pointed bill. I quickly exposed my full film pack of 4- by 5-inch negatives, all that I could afford even for an occasion like this.

The birds protested with jabs as we approached, and we were careful to stay out of reach. Birds on the steeper slopes took off smoothly, diving steeply downwards towards the sea before levelling off in a sweeping glide as they approached the water. Incoming birds approached at high speed, putting on the back-peddling brakes with their huge wings only at the last minute. Landings were followed by much protesting and confusion among the neighbors. It was an exciting and turbulent scene with the half-grown chicks contributing a significant share.

Kittiwakes, guillemots, and Razorbills swarmed on the lower ledges. Above the gannets a grassy knoll, the abode of puffins earlier in the season, we were told, was heavily populated with rabbits. Two Peregrines, probably a pair, circled above us and were presumably nesting somewhere close by.

We did not see the spectacular fishing of the gannet, perhaps because we were so absorbed with watching the nesting activities. Later we saw this to good advantage along the Aberdeen-Oban canal and on the west coast of Scotland. Dozens or even hundreds of gannets, having located a large school of fish, would plunge at top speed and in rapid-fire succession into the water, folding their wings backwards to allow deep penetration. With so many birds fishing together it was impossible to say how long each bird remained submerged, but eventually each bird popped to the surface and

took off, its fish, if it had indeed caught one, already swallowed.

The Emlen family members were enthusiastic swimmers and accordingly seized the opportunity to take a swim whenever possible. On one occasion I well remember seeing a brood of Mute Swans coasting sedately along a river (I think it was the Thames) in which we were swimming. I decided to approach and explore. Swimming up to the big adult bird I suddenly realized I was being attacked. The huge bird, not more than 20 feet away, was churning directly towards me, its head lowered, its bill open, and hissing. I turned and swam away precipitously, diving to cover my retreat. Not daring to re-emerge, I held my breath and swam as far as I could. When I finally was obliged to come up for air, I was relieved to find that the bird had abandoned the chase. I held my course, however, feeling that strange sensation that sweeps over a person when his system has been flushed with adrenaline. No damage was done, but a lesson was learned: a swan can be a terrifying threat.

### THE UNDERGRADUATE AND GRADUATE YEARS (1927–1934)

In 1927, Emlen entered Haverford College in Haverford, Pennsylvania and found the academic life to be a difficult challenge, with more time required for study than he expected based on initially poor results, but he slowly brought up his grades and ended the year quite secure. His sophomore year found him returning to his bird interests.

During my sophomore year my grades were improving so that I felt I could return to my high school hobby of bird banding. Dan Smiley joined me on this venture, and we worked out a trap-servicing schedule that assured one bicycle cir-

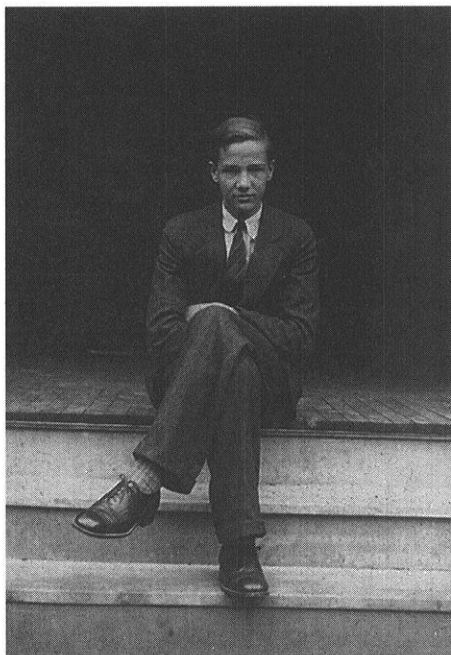


Figure 11. Emlen at Haverford College (probably 1927). Emlen Family Archives.

cuit of a campus trapline every 2 hours. When our catch jeopardized getting to the next class on time, we put our captives into a cloth laundry bag that we carried under our belts. We'd then stash the bag and band the birds between classes. The schedule was inevitably tight, and I often arrived at algebra class as the bell was ringing or even a few minutes late. "F of X," the professor, looked at me disapprovingly as I slipped into my chair whenever that happened. Our results were worth the inconveniences and embarrassments, however, and during the three years that we ran those rounds, we banded over a thousand birds, mostly juncos and White-throated Sparrows, but including many migrant warblers when we extended our traplines to include water drips above many of the traps.

We also found time on weekends to band Chimney Swifts at the Sharpless Cream Separator Works in West Chester,

some 10 miles away. A classmate told us that thousands of swifts roosted in the big chimneys there, and we drove over to investigate on May 3 1930. Seeing thousands of the birds circling overhead and, at dusk, funnelling down into the main chimney like a reversed column of smoke, we capped the chimney after dark with a screen we'd made with a trap door in it. Early the next morning we returned equipped with a thousand size 1 bands, a big cage, and related banding paraphernalia.

Armed with the proper permissions we climbed to the chimney top before sunrise and peered down. No birds were stirring, but the chorus of chipperings assured us that the birds were there. Cautiously we placed our cage on top, raised the cage door, and lowered the trap door of our screen. Within a minute hundreds of birds had swarmed up into our cage. The trap door in the screen was pulled closed to seal off any that remained in the chimney, and the cage with its hundreds was lowered to the roof top where we had our bands and banding equipment. This first haul turned out to be close to 200 birds, and it took us several hours to band them and record the activity. We raised the cage to the chimney top again and opened the doors. Again our cage was full in a minute and we repeated the procedure. After a third haul we decided the birds that remained should be given their freedom, and the cap was removed. We had banded 339 swifts that morning, six of them birds already wearing bands from other banding operators.

The following year we returned eager to re-experience the fun of banding so many birds and to see how many of our 1930 birds would return. This time we banded a total of 418 on two nights. To our surprise there were only three returns from the 339 we banded in 1930, but we were nearly three weeks later in the season and assumed the new birds must have represented a later wave of mi-

gration. As with so much of bird banding, the real joy is in the operation, although results did appear in the mailed reports from Washington in subsequent years as they did from our banding results from night herons and ospreys in Delaware and New Jersey.

In 1931, Emlen's senior year at Haverford, he decided initially to enter the University of Pennsylvania's Medical School, but Haverford's president proposed otherwise.

The president, Professor William Comfort, a distinguished scholar fondly known as Uncle Billy, wanted to see me. No reason was given. Naturally I was a little concerned, although I had no reasons except that I had once shot Professor Jones' cat with a bow and arrow after it had killed a number of birds in my traps. Of course I responded and showed up on schedule with only slight worries.

"I understand you have signed up for medical school," said Uncle Billy.

"Yes," I said, "it seems like a proper profession for a student interested in biology."

"Have you considered teaching and research in biology, with an emphasis on ornithology?" he inquired.

I had, but I had learned that the opportunities there were very limited, and I realized that my academic standing in this field was also limited.

"Well, think it over," he suggested.

I went back to Dr. Emmet Dunn, my biology professor, and discovered that he was guilty of proposing the idea to Uncle Billy. I had spent the previous summer in Honduras as a member of a collecting expedition for the Philadelphia Academy of Natural Sciences and had worked over part of the resulting collection with Dr. Dunn, joining him as junior author in a publication in the Academy's proceedings. Apparently he had been favorably impressed and, perhaps noting that my grades in chemistry had slipped badly

that year and did not match my performance in biology, had made the suggestion. The idea appealed. I dropped my plans for medical school and applied for graduate school in ornithology at Cornell, where I had really wanted to go all along.

I stuck with my plan, already under consideration, to enter the National Park Service's program as a ranger naturalist in Yosemite National Park, and from there went on to Ithaca as a graduate student with Dr. Arthur Allen and to a career in natural history with specialization in ornithology. I am forever grateful to Dr. Dunn and Uncle Billy for awakening me to the view that I could follow through with what I really wanted to do all along, which was to devote my life to the study of animals in nature.

Emlen's Cornell experience and his European trip with his parents fueled his desire to bird overseas, so when an opportunity arose to join a collecting trip to the Greater Antilles, he seized it.

Dr. Stuart Danforth, a 1925 Cornell graduate student and then a professor of ornithology at the University of Puerto Rico's School of Agriculture at Mayaguez, wrote Father asking if I might like to join him on a collecting trip to the Dominican Republic. . . . Uncle Walter Moore helped arrange passage on a Clyde Steamship liner, the U.S.S. *Huron* sailing for Santa Domingo on June 25 1927.

The ship, a small freighter was, in my mind, a beauty, although strikingly smaller and simpler than the *New Amsterdam* and the *Tuscania* in which we had crossed the Atlantic the year before. I had complete freedom to wander all over the ship, so I spent much of my time up in the bow trying to identify the numerous shearwaters and petrels. Flying fish were very abundant, and as we approached Puerto Plata on the north

coast of Hispaniola, I saw several Yellow-billed [White-tailed] Tropicbirds.

I was particularly amused chatting with the ship's doctor, obviously with no medical degree, who delighted in showing me his 'medical cabinet.' He had perhaps 20 or 30 little bottles. He was especially proud of one called 108 because it cured 108 diseases. It could also be used for shoe polish or as engine oil!

At Puerto Plata I had a couple of hours ashore and walked down a narrow gauge railroad track to see what might be identifiable in the way of birds. I was impressed with the heat, especially when I sat down on the track only to rise with haste and a burned fanny. Sparrow hawks, anis, grackles, mockingbirds, and Black Swifts were prominent, and I was particularly glad to recognize the Palmchat (*Dulus dominicus*), a species peculiar to Hispaniola that builds huge communal nests in the crowns of the royal palm trees.

Cruising from Puerto Plata to San Pedro de Macoris, we saw many more tropicbirds, pelicans, man-o-war birds, and terns. . . .

Then it was on to Santo Domingo:

Climbing a steep mountain road with dense cactus growth and agaves, we traversed a forested area with Hispaniola's highest mountain, 10,300-foot Loma Tina, in the distance, then crossed over into the Haitian part of the island. Parrots and parakeets were numerous here, and we collected several specimens. . . . The roads in Haiti were even worse than those in the Dominican Republic and, with much new-fallen rain, presented numerous problems. From San Juan to Port au Prince, the capital on the coast, we must have forded a dozen streams and assisted in rescuing three or four cars or trucks including a government mail car. Stuart's Model T was amazing. He would pause at the bank of a creek while Frank [Frank Mathews, a graduate student] and I got out, race his engine, jam the





Figure 12. Crossing a flooded creek in Haiti, 1927, during Emlen's second overseas field expedition (at age 19), sponsored by the Philadelphia Academy of Natural Sciences. Photo by J. T. Emlen Jr.

first gear pedal to the floor, and plunge in at top speed, water flying even over the roof. Almost invariably the car emerged on the other bank then stalled, water flowing from the floor and mudguards and dripping from the roof. We were ready to move on in a few minutes, however, after the spark plugs had been dried with a rag. Tires and springs were also major problems. Nearly every day we had flats, which had to be repaired on the spot with a jack, a patch, and some vigorous strokes of a hand pump.

Eventually, Emlen and company found their way to Gonave.

Gonave was thought to have several distinctive endemic subspecies of birds. . . . Reportedly, there were no wheeled vehicles on the island and . . . no towns except a cluster of little thatched shacks at Anse à Galets where

an airstrip had been prepared on a sand flat on the west coast.

In the morning we reported at the airport and climbed aboard three two-seater planes for the flight. It was my very first experience in a plane, and I studied the whole experience in detail much to the amusement and interest of my marine pilot. My gear, including helmet and parachute, were strapped onto my back. Then I collapsed into a deep pocket behind my pilot and was introduced to an array of instruments, some of which I was warned not to touch. Suddenly a man rushed toward the plane from the left, grabbed the downward blade of the two-bladed propeller, gave it a whirl, and with a couple of backfires, the engine was started. Then we were off, rising higher and higher. As we passed over a big cumulus cloud I looked down to see a tiny shadow of my plane far below, beautifully encircled by two circular rainbows, a



phenomenon that after we landed at Anse, 40 minutes later, my pilot explained we were lucky to see so well.

Our six days on the island were almost completely absorbed in birding. With each bird I encountered I would wonder if it might be a new subspecies or even a new species, since according to the literature Gonave had been visited only once before by an ornithologist, and then only very briefly. We saw many species and collected several dozen among us, particularly hummingbirds and tanagers that looked different. We had heard that there were flamingoes on a large dry lake near the north end, and I volunteered to explore that area. Many stilts, plovers, terns, and herons were on those flats, but after an exhausting trip of some 25 miles I returned with a report of no flamingoes. Lizards of several species were extremely common, and Frank collected a specimen of a rare cuckoo (*Hiatornis*) on the ridge of the island. We met Lieutenant Wirkus and found him a very intelligent and fascinating man, quite interested in what we were doing and why we were doing it.

Our wish to see flamingoes was granted some two weeks later on a large salt flat near the mouth of the Artibonite River on the Haitian northwest coast. After a long overnight drift down the tidal river with the outgoing tide, we cast anchor and waited for the sunrise. The night had been particularly uncomfortable, since we had to lie in cramped positions across a half dozen high ribs on the boat's bottom. We woke to note that our boatman was covered with open syphilitic sores. But, as the rising sun slowly lit up the eastern horizon the birds began to appear: Black-crowned and Yellow-crowned Night-Herons, Reddish Egrets, Louisiana [Tricolored] Herons, egrets, Glossy Ibis, Roseate Spoonbills, and flamingoes, in addition to a wide assortment of plovers, coots, and gallinules. It was well worth the torture that preceded it, although Stuart kept refer-

ring back to those ulcers for several weeks. . . .

My trip home was indeed eventful. After a few final weeks in Hispaniola and a week with Danforth in Puerto Rico, which included a visit to a nesting colony of man-of-war birds and pelicans on Paragüera Island, I boarded the U.S.S. *Maracaibo* in San Juan for the final leg of this, my first scientific expedition. The *Maracaibo* was a 1700-ton, flat-bottomed ship. It drew only 12 feet of water when loaded so that it could navigate the shallow reef leading into Maracaibo's harbor in Venezuela. Having unloaded its cargo it was returning to New York with an essentially empty hull and little ballast. The first few days were beautiful, and I spent almost all the daylight hours on deck watching porpoises dashing in the bow waves, and flying fish skimming off to the right or left as the boat flushed them.

On the third day a strong wind picked up from the southeast, and to my surprise, the sailors hoisted two large sails on the stern deck, possibly to stabilize the considerable roll that was developing or to contribute to our northerly progress of only about 150 miles per day. By the fourth day the wind was blowing a gale, the ship was rocking and pitching heavily, and only a quarter of the 50 or so passengers were showing up for meals in the dining saloon.

That evening the captain turned his bow into the wind or slightly to the port side, sealing all doors and port holes on the starboard side of the ship for passenger safety. Many of the staterooms opened onto the deck, and I never heard how these people were assured of their essential supplies until the storm was to subside. Fortunately, my stateroom opened into a corridor on the portside. I had freedom to go out on to the narrow port deck to travel, hand over hand, down a rope rail to the narrow smoking room in the stern where a group of the hardier and more adventurous types

gathered to tell stories of their seafaring experiences.

The door on the windward end (starboard) of this corridor room was bolted, but for ventilation we collected near the leeward door to watch the storm and to estimate the height of the waves and their distance from crown to crown. The estimated wave height ranged from 20 to 25 feet, the crest-to-crest distance from 100 to 200 yards. Our boat was minuscule among these rolling giants.

Walking back along that port deck for supper was almost like an exercise in rope climbing, with rain and spray beating against our faces, but we made it to the dining saloon door and found it unlocked. The crew, surprised to see anyone about, greeted us and offered us a somewhat restricted meal that we ate with gusto, each cup or plate held firmly in racklike structures on the table top. But, before we were through with our meal a truly giant wave crashed against our supposedly inviolate port door. Water streamed through all the not-so-tight cracks and flooded down the few steps below it. But, these doors held. It was no longer funny, and we could see that on the faces of the waiters.

Should we go back to our cozy little smoking room? About five of us decided, yes, so we walked back along the 30 or 40 feet of deck and tumbled into the safety of our little retreat. I was the youngest in the group and was finding this whole experience a lark. Surprisingly, all of us were thoroughly enjoying ourselves, telling stories as we peered out into those gigantic, rolling mountains of water, alternately peering downward into a deep trough, then suddenly upwards with the floating surface spray to the crest of another huge mountain of blue-black water: It was an experience I will always cherish, scary, yes, but invigorating beyond imagination and to my young mind immeasurably exciting. . . .

Towards morning the worst of our turmoil began to get tiresome. Struggling to

stay in one place on the smoking room bench as the ship rolled and pitched left us without a moment to relax. The captain had cut the engines to minimum speed two days earlier, keeping just enough power on the propellers to permit steering and holding the bow into the wind. Under the circumstances, this was a necessary strategy, but it invited a timber-shattering jolt every 10 to 15 minutes when a giant wave would heave the flat-bottomed bow up into the air and let it down with a great jarring smack. We realized that this must have been extremely rough on the whole structure of the ship, and we started speculating, jokingly, whether the ship could possibly hold together. None of us was sick; it was just too exciting.

About midnight the wind abated, and although the ship continued to roll and pitch, we fell asleep. The next morning those giant waves were still rolling on, but the real danger was apparently over. Passengers from the starboard side were released from their prisons and brought in to the social room to recover. A ghastly bunch in obvious misery from seasickness, most of them were still in night clothes stained and blotched with pink dye from the red carpets in their state-rooms, which had flooded and splashed the occupants with dyed water. We were vividly made aware just how fortunate we had been to have been assigned to port-side rooms and beds.

By noon the *Maracaibo* had settled to a slow, gentle roll, and our starboardside shipmates were reviving. The captain appeared, and we raised a hefty cheer. He had been at the wheel for over 48 hours without rest. He said with evident conviction that it had been a terrifying experience for him and, more than all of us could realize, was the worst storm he had ever seen in his life at sea. In my juvenile innocence I had viewed it all as fun, but suddenly I realized that I had lived through a truly grave experience when the captain thanked us for staying with

him through this terrifying experience! What else could we have done?

Emlen's next trip abroad was to Europe during the summer of 1928. An eight-day boat trip brought the family to Cherbourg, France, and from there they took the train to Paris. After a few days in Paris, they travelled by train south to the Pyrenees Mountains, along the Spanish border.

Here a Spanish customs officer threatened to confiscate my arsenic, a chemical I had brought with me because it was essential for preparing bird specimens. That crisis bypassed, we drove on to Lourdes and the famous grottoes where thousands of crippled pilgrims were gathered to kiss the bones of Catholic saints and sample the healing waters of the sacred springs.

For me, however, the principal attractions of the area were the snow-capped peaks to the south. A few days later we found lodging in a small inn near Luchon, the takeoff point for climbs into the Pyrenees. At daybreak Father and I started the ascent. By noon we were up on the snow fields with wonderful vistas of spectacular peaks to the south and west. There was no clear trail to follow, but we were approaching an apparently significant peak when Father, feeling the altitude, sat down to rest. In his fifties but in good health, he was sure he could go on, but after a half-hour he had changed his mind. He said I should go on to the summit, which was perhaps another half hour away, and he would wait for me. I went on but, a bit concerned, turned back after 10 or 15 minutes.

Father was gone. I found a note saying that he had started down the steep slope and would head towards the town visible far below us. I followed his track as he half walked, half slid for perhaps a half mile when I spotted his sweater, which I remember had been tied around his waist on the ground. Now I was alarmed

and started to run. Fortunately, I found him within the next half mile. A truly welcome sight! He was O.K. but had had a real scare, possibly a small heart attack. We walked down to Luchon together, spent an extra day resting up, and were on our way again, none the worse for the episode. I had learned that people, even my dad, were vulnerable. But I had also seen some birds on that hike: Gray Wagtails, Meadow Buntings, serins (finches), Great Spotted Woodpeckers, and, best of all, a Black Woodpecker. The latter was as big as a crow with a huge red crest and an ivory white bill reminiscent of the now-extinct Ivory-billed Woodpecker in America.

Our next stop was the Riviera coast, high above the blue Mediterranean, and the ancient cities of Avignon, Arles, and Carcassonne dating from the days of the Roman Empire. Of special importance to me, however, was the Isles de la Camargue, a huge area of marsh and grass at the mouth of the Rhone River, world famous for its herons, tern colonies, shorebirds, yes, and flamingoes! We saw them all and many spectacular birds of prey: kites, lammergeiers, eagles, and the remarkable white Egyptian Vulture, a reminder that Africa was just across that body of blue water at my feet.

From the Riviera, the Emlen party moved on to Switzerland and the Swiss Alps. Mountain climbing was the order of the day, and after conquering a 13,669-foot peak named Jungfrau, with the aid of a guide, John Jr. had his sights set on climbing the Matterhorn. But Emlen's father did not want to pay the guiding fee.

So we settled on a secondary, less expensive peak, the Rimpfshorn when we discovered that Felix Biener, our favorite guide and a marvelous yodeler would take us. After several days to rest our sore feet and do some birding, we started off, hiking across the Fendelin Glacier to the

Fluh Hütte, an overnight lodging place for mountain climbers.

Our start up the mountain from the hut was in the dark at one in the morning. We carried lanterns for the first couple of miles, leaving them in a cache as the horizon started to brighten to the east. From this point the trail became steeper, with rocky scrambles alternating with snow fields. The valleys below were filled with clouds, but the peaks remained subjects for colorful tales of climbing adventures by Felix until we reached the summit at 13,790 feet. From there we were treated to a glorious view of snow peaks in all directions, including the Matterhorn, Mont Blanc, and the Jungfrau. After the 6-hour climb our legs were weary. An hour of rest in the crystal clear sunshine, with sandwiches and hot tea, plus entertaining stories by Felix punctuated with loud yodels out across the great open spaces, was a delight.

But we had to be back in Zermatt by dark and were soon on our way, joining Felix with feeble efforts to imitate his superlative yodels. I had seen no birds except for a few Alpine Choughs. But I could not deny that in spite of this, it had been a truly wonderful experience. As we approached the gentler slopes near Zermatt, we broke into a run, sliding and shoe skiing as though we were just starting. We bid our farewells to Felix, whom we would never forget, and to cap it all, we flushed a couple of ptarmigan and an Alpine marmot as we marched home to Father in triumph.

From the Swiss Alps, the Emlens journeyed to Normandy and to Holland,

In Amsterdam, following the advice of Dr. Stone in Philadelphia, I looked up Dr. Van Tienhoven, a leading Dutch ornithologist. He was very helpful. In response to my boyish request for ideas on birding places, he suggested Texel Island, a large island with extensive tidal

marshes, a day's trip to the north of Amsterdam. Furthermore, he elaborated on how to get there, places to stay, and birders to contact locally. Our time in Holland was short, and Father and Sue had other plans [Mrs. Emlen and daughter Mary had returned home at the outset of the European trip to be with Virginia Emlen's father, who had suffered a stroke]. But I could not be dissuaded, and Woody decided to join me.

Time was awasting, so without delay Woody and I rushed to the natural history museum where a wonderful exhibit of Texel bird life was on display. Then it was back to our hotel to change clothes, throw a change of shoes, etc. into our rucksacks, and head down to the railroad station for the three fifteen train to Helder at the tip of the Amsterdam peninsula. A 2-hour train trip through the fascinating Holland landscape with great windmills brought us to the ferry dock, the Texelsche Boot, on the island. Here we boarded and in 40 minutes were in Den Burgh, the center of Texel's human populace. The birds were up to the north, so we hired two bicycles and checked in at a neat little Dutch inn.

Shops open early in Holland, and after a quick breakfast and a few purchases, we were off on our bicycles with a strong tail wind to boost us onward to Cocksdoorp, a little town at the north end of the island where we hoped to find Mr. Bierman, the local birder, and the birds. Lapwings, skylarks, and wheatears were abundant along our road, and gulls, ducks, godwits, and several species of plovers flushed from every roadside pond.

Mr. Bierman unfortunately had been away for a month, but we registered at the Hotel-de-Hoop where the proprietor had a book and all the basic information on the best birding areas. We wasted no time, walked to the dike that shielded the town from the high tides, and gazed out over a broad mud flat peppered with plovers, stints, turnstones, and redshanks. Farther away our binoculars

picked up clusters of curlews, godwits, oystercatchers, and at least three species of gulls. As we walked along the dike, it was clear that the flats continued for miles and the birds with them. We now added several species of herons, the striking white European Avocets, a Curlew Sandpiper, and some Greenshanks. Far in the distance were a dozen or so European Spoonbills, which were much like our American spoonbill that I knew from book illustrations, but which were white with a striking yellow and black bill.

The tide was beginning to turn now, and distant flocks of birds were rising from the flats, forced to turn inland as their outer feeding grounds were flooded. Small flocks of ducks, primarily mallards and shovellers, were flying in toward us. On the horizon a long line of black that we had been unable to explain suddenly bulged upwards and revealed itself as a huge flock of cormorants that had been resting on a distant sandbar. A meadow of short sea grass that we crossed was carpeted with down feathers and droppings, revealing where thousands of these tidal feeders, during this, the mating period, were spending their idle hours when the lower fields were flooded. Terns of three species now appeared overhead, along with others that had apparently been flushed by the rising tides. Birds were everywhere, mostly on the wing. But the sun had set, and it was getting dark—time to amble back to our little inn, supper, and a frantic attempt to write up my bird notes.

We had a second day on Texel, and we spent it retracing our steps of the first day, seeing mostly the same species but using different strategies. Returning a little before sunset to an area near the feather-strewn meadow, we hid ourselves (flat on our bellies) in some tall grasses near the crest of a dune where we could look out over the shifting scene of water and mud flats as the tide rose. The first birds to move this time, (perhaps we had arrived too late the day before), were a

dense flock of chunky, snipelike sandpipers called knots. They came speeding in low over our heads with a great rush of wings, to land on that dry, feather-strewn pasture about a hundred yards behind us. Next, a flock of 32 glistening white Spoonbills settled in the shallow pond right in front of us. They were apparently unaware of our presence as we remained silent and motionless. They peacefully stalked back and forth, swinging their great yellow-tipped bills in wide semi-circles. One bird latched onto a large object, which it struggled repeatedly to swallow, before giving up to resume the monotonous back and forth bill-swinging. At this point the huge black mass of cormorants arose en masse from the distant sandbar, just as they had the day before, slowly breaking up into smaller groups to drift inland above us. The sky was now filled with thousands of tiny stints, Dunlins, and plovers displaced by the rising waters, many of them apparently settling on the pasture behind us. A variety of ducks, including teal, scoters, and a half dozen gaudy shield ducks [Shelducks?], now joined the Spoonbills, coasting into the little pond with swishing watery slides. Then suddenly, as though the air was not already filled with wings, everything seemed to leap into the air. There was no apparent alarm to cause such a response, which seemed to be just another phase of the rising tide and the slow submerging of the foraging terrain. In the fading daylight, mountains of birds rose up on every horizon then drifted overhead towards the mysterious roosting area behind us.

By eight thirty it was too dark to see, and the flights precipitated by the rising water were essentially over. Unfolding our cramped leg bones we struggled to our feet and stretched. A small flock of curlews flushed from behind us, giving their ever-distinctive “curlor” calls, and drifted towards the pasture, their silhouettes barely visible against the now starlit sky. Our thoughts were overwhelmed

with all we had seen during the preceding several hours as we trudged back to Cocksdoorp and our inn. It was our last night on Texel, and, indeed, our last in Holland, for the next day we would be boarding another ocean liner for a return home and another season of study and preparation for a career in, perhaps, natural history and adventures in birding.

John Jr., spent the summer of 1929 largely indoors, but exposed "to the world of birds in the world's largest collection of bird specimens at the American Museum of Natural History in New York City."

I had been introduced to the Neotropical avifauna in the West Indies and to the Palearctic avifauna in England and Europe, and I was anxious to broaden those revelations to an overview of the birds of the world. . . . My job at the museum was to catalogue a large and valuable collection of Brazilian specimens, the Kaempfer collection, an assignment that I initiated by spilling a bottle of India ink over the handsome catalogue book. Dr. Chapman, Director of the Bird Department, came in to assure me that this mishap was not fatal. In fact, thereafter he was even more tolerant and appreciative of my boyish enthusiasms.

The cataloguing was monotonous but fascinating. I learned the names and characteristics of the many species and of the Brazilian provinces from Bahia to Pernambuco and Maranhao. I also had a chance to chat with the world-famous ornithologists whom I met and had lunch with every day. I was particularly enchanted with Dr. James P. Chapin, a specialist on African birds. He had fascinating stories to tell of his experiences while collecting specimens or of tracking down rare and elusive species such as the African peacock, a remarkable pheasant-like bird. Before it was ever known in the

field, he had found a specimen in the Belgian Museum in Antwerp.

My closest contact, however, was with a shy, retiring ornithologist, Dr. Waldron DeWitt Miller, who, I found, was the final authority for all questions on specimen identification. Dr. Chapman and Dr. Robert Cushman Murphy—the big names on the staff—would drop by at least once or twice a week to ask him a question and would almost always get an answer or a helpful steer. On my first day he had an ostrich intestine from a zoo specimen stretched out, back and forth, along the corridors between the specimen cases to examine its structure and measure its length.

I often had my sandwich with Dr. Miller at noon. He had a 4-cylinder motorcycle that he loved to take out to New Jersey birding localities on weekends, a hobby that led to tragedy before the summer was over. On a trip to Spring Lake one Sunday he was killed in a traffic accident. This shy, retiring gentleman had made a big impression on my young life during those few weeks I had with him at the museum.

#### **FIELD WORK IN HONDURAS AND A MEETING WITH ALEXANDER SKUTCH**

When the summer of 1930 came into view, Emlen was "anxious to get back into the field."

Thanks again to Father and his behind-scenes maneuvering with Witmer Stone, a new opportunity emerged. Dr. James A. G. Rehm was planning to travel to Honduras to collect Orthoptera (grasshoppers, crickets, etc.) that summer and could shepherd a couple of young ornithologists who could pay their basic travel expenses. Father found the few hundred dollars required, the parents of Brooke Worth, a friend at Swarthmore, managed a similar arrangement, and the expedition was launched.



Brooke and I were to collect as many birds, reptiles, amphibians and fish as possible along routes selected by Dr. Rehn and were to deliver them to the Academy. It was hoped that we might also contribute to or directly author several scientific papers on our results. Using our field notes to supplement his report on the bird collection of 569 specimens, Dr. Stone published on the birds and named a supposedly new Pewee in my honor. Meanwhile I teamed up with Dr. Dunn, my biology professor at Haverford, to publish on the reptiles and amphibians. This article apparently added nine species of amphibians and 26 of reptiles to the known herpetofauna of the country. . . .

Our first field base was at the field camp of the American Rosario Silver Mine Company, an encampment on a steep mountain slope at an altitude of 5,100 feet. Here we were offered basic food and lodging facilities within a few miles of extensive stands of cloud forests, brushlands, and pine forests—habitats where we particularly wanted to focus our exploring and collecting activities. A mule train would be coming to Tegucigalpa in a few days, and we could join them on their return trip. There would be plenty of mules for us and our luggage. The road was impassable for any sort of wheeled vehicle. It was essentially a trail cut into the steep mountainsides, used primarily by native villagers traveling or transporting goods in mulepacks, on small horses, or, if these were not available, piled on the heads of women.

The camp was a simple cluster of about a dozen bunkhouses with an attractive mess hall and social hall for the fifteen or so mine bosses and their families. The area surrounding the buildings had been largely cleared of vegetation to discourage bandits, who had over the years made several raids on the administrators' homes and families. Beyond this clearing and down for several thousand feet was dense brushland, from which wood ma-

terials were constantly stripped to feed the charcoal pits maintained by the local natives for their fuel requirements. Foot trails in this area were characteristically very steep, although the larger trail leading down to the tiny villages of San Juan-cito at 3,800 feet and Cantarranas at 2,200 feet, where we camped for a week, were roughly graded for mule and horse travel. Pine forests—open pure stands or with patches of scrub oak—were found in the less-disturbed areas up to 4,500 feet and, in primitive time, probably to 6,000 feet where the cloud belt and its distinctive flora and fauna abruptly replaced all other vegetation.

The cloud forest, densely covering the mountain peaks, was the most readily reached about two miles west of the mine buildings at a point where the principal mine shaft plunged horizontally into the hillside. Here a high white limestone wall, lit up at night with brilliant floodlights to discourage trespassers and bandits, functioned wonderfully for our purposes by attracting thousands of spectacular moths and nocturnal insects. Night after night we walked the four-mile round trip to this point to collect specimens for the academy or for our own show boxes at home.

From this point the Tegucigalpa road plunged into the cloud forest, providing access to many square miles of largely undisturbed wonderland ranging up to over 7,000-foot elevations. Standing and gazing upward into the forest overhead, we could not but be overwhelmed by the scale and somberness of the scene. Tree trunks, buttressed with flanges like great walled partitions, towered upwards into mists that hid their crowns. Massive horizontal branches, often 50 or even 100 feet above my head, projected horizontally into great misty spaces, heavily loaded with bromeliads, orchids, ferns, and mosses, dripping with the heavy moisture that permeated the atmosphere everywhere.

Birds? The silence of the scene sug-

gested they were scarce, and we spent many hours waiting for just a peep or a cheep to give us a suggestion of at least a few. They were there, just lost in the scope and magnitude of their habitat. Dominated by large species of ground foragers or of treetop gleaners far overhead, their calls were simply occasional loud wails, shrill screams, or the sharp barks of tinamous, parrots, or trogons rather than the chips and twitters we associate with small insect or seed feeders in our familiar temperate woodlands.

With no identification guides and no list of likely encounters, we were constantly perplexed and challenged by strange sounds and strange forms flashing across our visual fields. Our limited knowledge and memory of museum specimens back home only aggravated this confusion and led to much wild speculation: An owl? A trogon? A new species? How different this was from the modern tropical bird tour with its illustrated reference books and colored plates, recorded song tapes, and trained guides experienced in the local geography and local avifauna! It was probably less efficient, but was it less challenging and fun? I doubt it.

It was here in these magic cloud forests that I also encountered my first white-lipped peccaries, my first tayra (a large fisherlike member of the weasel family), and my first mountain lion. I had seen footprints that suggested mountain lions were present, but my first encounter was as I was walking up the Tegucigalpa road near the summit when a huge tawny creature, the size of a great dane but with a long tail, streaked across the road and down a narrow game trail into the forest. As I rushed forward for another look, a native boy coming towards me from the opposite direction also saw it. When he saw me running in apparent pursuit, he shouted warnings. "Leona, Leona, Le Comé, Le Comé," he screamed. Wondering whether the boy might know more about such creatures than I did, I

hesitated, and the animal disappeared into the forest. I found more footprints to convince me that I had not been dreaming, but that was all. The animal was indeed a mountain lion. But, as always, I wished I could have seen more of it, a lot more. . . .

Our last week in Honduras was spent at the Lancetillas Experiment Station of the United Fruit Company near Tela on the Caribbean coast. Here, one day while collecting my quota of bird specimens, I spotted a small strange tentlike structure in the forest, something resembling the bird blinds I had seen years before at Cornell. Then I saw that it was placed near a large bulky bird nest and realized that it must indeed be a bird blind. Presently a young man appeared to ask what I, a complete stranger, might want, and we fell into conversation.

His name, he said, was Alexander Skutch [renowned writer-naturalist and authority on Central American ornithology]. Although he was a plant pathologist with a recent PhD degree from Johns Hopkins University in Baltimore, his real interest was in bird behavior. Having completed his routine chores for the United Fruit Company for the day, he was spending the afternoon studying the nesting behavior of a Rufus-breasted Spinetail at its nest by the blind. I introduced myself and explained my interests in birds and my mission with the Philadelphia Academy.

Skutch invited me into his blind, and I was utterly fascinated with what he showed me. Behavior was what had really intrigued me about birds all along, but to this point I had scarcely recognized it as a legitimate aspect of ornithology. Skutch had inserted a small paintbrush, dipped in yellow paint, into the roof of the tunnel-like entrance to the bird's nest. As we watched the female came, incubated the two eggs, and left with a neat, yellow stripe down her back, a readily distinguishable marker for future individual recognition.

I was thrilled and returned to the Experiment Station, determined to see more of this strange man and his work. Dr. Rehn was dubious and reminded me of my intention to collect and prepare six specimens each day. With that accomplished, he said I could see more of Skutch and his research. This fit in well with Skutch's daily routine, and I returned for a few hours of behavior watching each of the remaining two days before our scheduled departure from Honduras.

This accidental encounter was, I now believe, a turning point in my developing career. It convinced me that I should think more seriously about what I wanted to do with my life. I have had few opportunities to visit Alexander Skutch since those few days in Honduras, but to this day, I have remained a devoted fan of his extensive research and writings on Central American birds.

### **SERVING AS A RANGER-NATURALIST IN YOSEMITE**

Emlen graduated from Haverford College in 1931, and immediately sought summer employment teaching as a naturalist.

The National Park Service provided a possible entry into this field. I learned that access to their ranger-naturalist program could be achieved with a certificate of successful completion of a summer course in their Field School of Natural History at Yosemite National Park. I signed up, and equipped with my B.S. degree from Haverford, I was ready to go in early June. . . .

Yosemite was even more beautiful then we had expected. The family stayed for a few days near Camp Curry where the Field School was located and then was obliged to take the train home. I was assigned to a four-bed platform tent with about a dozen campmates, men and

women, ranging in ages from 20 to 40. In a six-week period we were expected to learn the fauna and flora of the Yosemite plus all the tricks of informing and entertaining the dudes in lecture halls, around campfires, and on the trails.

Our leader, Bert Harwell, was a master of the art of entertainment. . . . When asked about the identity of an insignificant little plant, he might answer, "Lady, there are 180 species of flowers in this park, and I'm a specialist on bears." That sense of humor apparently was part of a naturalist's job, and we did our best to emulate our instructors. . . .

Besides taking many fascinating nature walks along short, beautiful nature trails, we were encouraged to take long overnight hikes into the back country and up some of the spectacular mountain peaks. With a classmate I climbed the 14,000-foot peak of Mt. Lyell, the highest in the park and even scaled the sheer face of a striking granite dome, Starr King. We were told that it had never been climbed before, but with sneakers and inner tubes sewed to the seat of our pants, we scaled the several hundred feet to the summit only to find a beer bottle with a slip of paper carrying two names. We added ours and started down when it started to rain. We had not expected that, and for a few minutes began to worry. But the rain stopped, and thanks to our nonskid pants plus some strong fingernails, we made it safely back.

### **ARTHUR ALLEN TAKES EMLLEN UNDER HIS WING**

In 1931, Emlen began graduate studies in ornithology at Cornell University, with Dr. Arthur Allen ("Doc") as his major professor. It was a joyful period in his life, and it transpired in a bucolic setting.

Having spent the summer of 1925 at Cornell as a nondegree student, I was al-

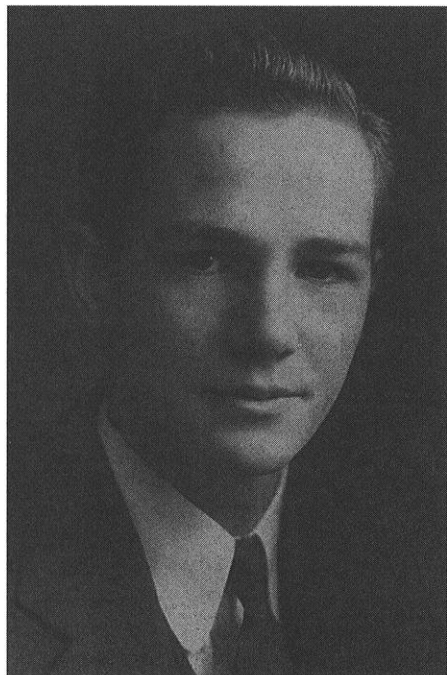


Figure 13. Emlen portrait, Cornell University (probably 1931). Emlen Family Archives.

ready familiar with the lay of the land and several of the professors, including Dr. Allen. He greeted me warmly as I described my plans and as he described what would be expected of me. My major would be ornithology, a relatively new department which for some strange technical reason had been assigned to entomology (vertebrate entomology?), and I could pick my two minors. Dr. Allen suggested that vertebrate zoology would be a good candidate with Drs. Wright and Hamilton as professors, and I readily agreed. For my second minor, I proposed geology or statistics in which I had had no training at Haverford, but "Doc," as everybody called him, thought entomology with Dr. Herrick would be better. Afraid of how I might fare with statistics, I agreed. I was assigned office space on the third floor of McGraw Hall and was turned loose to find living quar-

ters in the part of Ithaca students called College Town.

Rooms were cheap, and I found an adequate single on the third floor of a house on Bryant Avenue, a 10-minute walk from the campus, and with a selection of restaurants and "hash houses" only a few blocks away. I was alone on the third floor, a fortunate situation since the four undergraduate students below me were more interested in good times and drinking beer than in studying. I could shut my door and essentially ignore their evening antics. Girls were strictly barred from men's rooming houses at that time, but there was little or no control of men's behavior. . . .

The following year, Emlen moved to Cook Street in Ithaca and shared the second floor of a rooming house with six other students. But he was not always present.

One beautiful spring day when roommate Adger and I were immersed in textbooks and lecture notes in our rather cramped living quarters on Cook Street, it was proposed that we see what might be doing out in the countryside. Accordingly we hopped on his motorcycle and dashed out to Turkey Hill where we had been putting in some time on weekends with the N.Y. State Conservation Dept. on Gardiner Bump's Ruffed Grouse research project. Down by a creek in an apparently neglected meadow was a particularly lovely spot shaded by a large beech tree. As we contemplated the idyllic scene our thoughts drifted to camping and the outdoor life we both loved. Why not? we thought, and we did!

A farmhouse was close by, so we walked up and asked the landowner, Mr. Jenks, for permission to throw up a fence around the tree and to build a lean-to with some old planks that we had noticed nearby. To our surprise, the proprietor agreed, adding a few caveats that seemed thoroughly reasonable to us. He even

told us where we could find a couple of rolls of slightly rusty barbed wire to keep the cows at bay.

Two days later we had our new palatial residence established and a couple of hay bales strewn on the ground on which to throw our sleeping bags. We named it Tsundera beech which Adger, an irrepressible clown, insisted should be spelled "Ptszunderabeechbhu" with the first three and last three letters silent. I had no objections, and we promptly took possession with Mr. Jenk's enthusiastic approval.

We slept in this idyllic setting for the next month until summer jobs called us away. The cows were curious as we returned each evening to cook our supper over an open fire, but our fence held. A young crow that we rescued from a nearby nest provided company and conversation. We dubbed him "Get-the-hell-out-of-here" after having learned that crows can learn to talk, and surmising that the repetition of this name might provide protection against unwanted intruders. We weren't around much during daylight hours, but at least we had no evidence that uninvited guests invaded.

We learned to catch 10-inch suckers and even an occasional trout in our creek by lying on our bellies on the overhanging bank and simply grabbing the slippery prey when they signalled their presence by brushing against our outstretched fingers. Word of our new home leaked out to the members of the grad student community on campus, and our privacy was soon invaded by curiosity seekers. These visitors disturbed the tranquility, but often brought goodies, and on several occasions their visits ended in parties around the campfire. Our landlord up by the road accepted all this disturbance and, occasionally, even joined us. How lucky can one get?!

When I returned to Ithaca for the next fall semester, I found Tsundera beech intact and apparently undisturbed. I walked down in the darkness with my

sleeping bag, ready to spend that first night in the familiar setting. Intruders? Invaders? Four sleeping bags were already there, occupied by four friends from the Cook Street gang. After a bit of friendly dickerin', the fifth bag was squeezed in.

A reunion breakfast of fried eggs and bacon was shared to initiate the new semester and the new academic year. Temperatures demonstrated that camping weather was over. We pitched in together to dismantle the now-historic site, returned what had been borrowed, and enthusiastically thanked our former landlord. "Come again next spring," he shouted, but we never made it.

Emlen developed a close, personal relationship with Dr. Allen, who was a towering figure in ornithology at the time. His graduate students revered and emulated him, and his influence on them was pervasive.

Reflecting Doc's interest in and great success with bird photography, all his grad students and all CUBL [Cornell University Bread Line] members sought time in the large, well-equipped darkroom in McGraw Hall. Paul Kellogg, Doc's assistant, George Sutton, and Sewall Pettingill were among these competitors, all of them leaders in the group of competent ornithologists responsible for the high reputation for which Cornell was recognized at that time. Doc was an extremely warm, easygoing man, always ready to help where help was needed.

My research, which I will describe later, involved study of the sleeping postures and habits of any bird that I could get my hands on. This included water birds—coots, grebes, and various ducks. Unfortunately for Doc, the best, and perhaps the only place available for the observation and photographing of such captive birds was the bathtub in Doc's home. I made numerous visits to this bathroom over the years, the inconven-

ience it must have caused his family notwithstanding. I would simply report that I had a bird for study. Within a few days permission to take over the bathroom was granted, and personal help was provided in setting up cameras and floodlights and taking care of the birds. . . .

Despite becoming immersed in ornithological pursuits, Emlen was not satisfied with his overall educational experience.

I was disappointed in the lack of opportunity to broaden my education through course work at Cornell. Emphasis for a PhD education was very properly focused on research. But rather than spending so much time on specialized courses in vertebrate zoology and especially entomology, I would have liked basic training in geology, especially historical geology, and in statistics, which I regarded as essential for what I saw ahead. Instead I was obliged to wade through long sessions in insect identification and a course in wing venation patterns. Although well taught and interesting to one enthusiastic for the concepts of evolution, these classes were, to my mind, scarcely pertinent for what I thought I would be doing in the years ahead.

I did get approval from my committee to audit, but without recognized credit, a course in historical geology with field trips to the Silurian and Devonian fossil beds in the Finger Lakes region and a swing up into the Cambrian rocks of Lake Champlain and the Adirondacks. I was also introduced by an imaginative and dynamic young professor, Ken Caster, to the controversial new concepts of continental drift. For the next twenty years these concepts would be roundly challenged by conservative older geologists and evolutionists who refused to give up what they had been taught as infallible truths.

Dr. Wright, one of my zoology professors, was a true, old-fashioned naturalist.

He told endless stories of his heroes—Agassiz, Cope, and Marsh, to name a few—featured in tales, sometimes slightly exaggerated, of interesting strife among 19th century naturalist explorers and collectors. Bill Hamilton, his junior partner and teaching assistant, was even more of a character and was prone to play tricks on unwary students and colleagues.

Art Hawkins and I were favorites of Bill in the sense that we understood and appreciated his wry sense of humor. He would often call us back into his private quarters after hours to share wild stories or to test our reaction to a quid of chewing tobacco or a swig of 70% lab alcohol. But with all his pranks, Bill was a square shooter who was not only a remarkably able authority on all forms of vertebrate life but also was full of first-hand animal lore. You couldn't trust Bill to give you an honest answer to a serious question, but you could detect by his expression and tone of voice when he was kidding.

It was Dr. Allen's courses in ornithology, however, as well as his encouragement, that excited and stimulated Emlen the most.

Dr. Allen's courses in ornithology and in birds of the world were highly instructive and stuck very close to what he obviously considered standard classical ornithology. He had little time for the newly emerging and exciting concepts of migration or of the physiological bases of behavior. His course on birds of the world, taught with numerous specimens and slides, was particularly instructive and served as a model for a similar course I taught many years later at Wisconsin. . . .

Newly arriving graduate students at Cornell were traditionally assigned a life history for their thesis research. Doc felt that this would offer the candidate a broad training in avian adaptations appropriate to the ornithology of the day



and to the student's special interest according to the species—a hawk, water bird, or song bird—he or she would select. Something of the rebel in me said No. I wanted to tackle some basic biological problem or some aspect of avian biology or behavior that cut across species lines, allowed inter-species comparisons, and possibly included evolutionary trends.

Although dubious, Doc was receptive, but what would the topic be? The desirability of posing and testing specific hypotheses was not appreciated in the 1930s, so I selected a broad area of research with multiple questions that would give little hope of providing explicit or useful answers. My topic was a comparison of avian adaptations to darkness, i.e., a survey of the literature on night-roosting behavior of birds. Little was known, and little still is known about how diurnal birds spend the hours of darkness or how they protect themselves against the hazards of this period, when they are essentially defenseless.

Neither Doc nor I had any idea how many miscellaneous bits of information there would be in the published literature, how fragmentary and scattered they would be, or how difficult they might be to interpret. Thus my thesis wound up with over 600 references, most of them minuscule, and 600 pages of text. Some of the observations are interesting and suggestive, but most were little more than a listing of sleeping postures and observed roosting sites. However, in looking back at that compilation, I now ponder some puzzling questions: Why do the majority of long distance migrants choose to migrate at night, and what do many sea birds, including terns, that are not known ever to alight on water, do at night when far out at sea?

Most interesting to me were the gregarious species, those that congregate in communal roosting sites during the non-breeding season. Such species were crows, blackbirds, robins, swallows, sand-

pipers, and others that, for reasons not immediately apparent, swarm in from hundreds, even thousands of square miles of foraging terrain every evening to roost together in woodlots, in reed beds, or on sand bars. Fieldwork, an essential part of any project I would undertake, focused on these nocturnal aggregations and provided most of the adventure aspects of my thesis research.

In the 1930s crows in New York State tended to aggregate with their newly reared young in small flocks in midsummer. These local groups would merge into progressively larger flocks during the fall months as temperatures dropped. By midwinter they reached peak numbers when up to 50,000 or 60,000 birds, all of this one species, would swarm into a woodlot or forest patch from foraging grounds as much as 20 or 30 miles away. It was these gigantic aggregations that demanded much of my attention during the winters of 1932 and 1933.

Foraging, largely on scattered corn in the recently harvested, widely dispersed fields, generally ceased by midafternoon. Then the birds became intent on social activities, mainly talking (cawing) and playfully interacting as they moved slowly in noisy flocks back towards the roosting site from which they had dispersed in the early morning hours. Flock size in each of the converging groups increased as subflocks merged. By an hour before sunset, essentially all of the members of the local population clustered in, forming two to four large flocks within a mile or less of the woodlot where they had congregated to sleep for the past several weeks. Feeding was through for the day. In fact many birds were disgorging little croquette-sized pellets of chaff, apparently emptying their stomachs before finally entering the small group of trees where they would spend the night. The outcry from these great, pre-roost flocks was spectacular, and I could not but imagine that their concentrated social-

izing had some significance for them. Just what it might be I never discovered. The crowding together and close interaction must have been detrimental in all respects that I could imagine: parasite dispersal, disease dissemination, and physical injury. I obtained evidence that these problems did commonly occur, but the social drive was clearly irrepressible.

The final flight into the roosting trees was generally delayed until darkness had descended. It usually occurred in silence, with thousands of the big black birds leaping into the air in a great cloud of rustling wings, circling over the treetops several times as though to test for the possible presence of enemies, then plunging into the upper, leafless twigs. If I were hidden in those trees, I could hear low, conversational whines and grunts that would fill the air as the birds shuffled about trying to find a firm, safe sleeping perch in the semidarkness. There was no cawing or screaming in alarm unless some genuine cause precipitated it, just those soft, almost human-like sounds of what to me reflected security.

Often secondary or tertiary arrivals came, each composed of thousands of individuals. These arrivals landed in the same woodlot area, scrambling to find roosting perches among their brethren, bumping into neighbors, or struggling to regain a perch-hold if a roosting twig broke or just wouldn't support the perch claimant. Peering up from the ground level I could see the hundreds of silent silhouettes against a starry canopy or a moonlit dome, but details were usually beyond my ken. The birds seemed to prefer close association, within a few inches of each other where possible, but apparently they avoided actual contact. Heads seemed to be turned back with the bills under the scapulars in most cases, but they were clearly directed forward and hunched between the shoulders in others.

In contrast to the socially dominated

and leisurely activities of the evening ceremonies, morning departures were hurried and unceremonious. Birds awoke well before sunrise and raised a huge clamor that lasted unabated until every bird was gone a half hour later. Birds literally bailed out of the trees, flaring out in many directions, as though intent on reaching some previously selected but distant foraging area. Perhaps I had been wrong in looking solely at the prolonged afternoon and evening social gatherings for explanations of the flocking behavior.

John Krebs, working with herons, recently proposed that one reasonable function of gregarious roosting and nesting might well be to provide an information center. From such a center rapid and definite morning departures in a particular direction could indicate knowledge of good foraging sites and a good route to follow for individuals lacking such information. That idea makes sense to me now; nothing of the kind occurred to me then.

A second objective of my fieldwork on crow roosting was to census the entire wintering population of this species in New York State. That crows were restricted largely and almost entirely to agricultural lands during the midwinter months, that nonagricultural areas could be checked for the purported absence of crows through systematic questionnaires, and that the approximate number of birds at each roost could be estimated with reasonable accuracy, suggested that a statewide census of this sort would be at least indicative of the total population in the state.

Maps could be prepared from these data and compared with statistics on the distribution of physiographic and habitat features. Such maps might shed light on the natural determinants of crow distribution over a large area of varied terrain. A similar survey made by a government biologist in 1911–12 for portions of the state suggested that the attempt might

prove feasible and could perhaps provide information on the stability of numbers and distribution over the intervening 21 years. I realized that I could not do the whole job myself, so questionnaires were prepared and sent to an extensive list of potential contributors: game wardens, county agents, sportsmen (including many crow hunters), and ornithologists. Reports from 262 of these informers contributed to the survey, providing data for 58 of the 62 counties of the state.

I then marked on a map the 20 roost sites identified in my 1932–33 survey and added the locations of the 16 roosts recorded in the 1911–12 survey. The relatively small proportion of the state populated by crows in winter was apparent. In addition the location of roosts in the two sets was remarkably similar. With one interesting and significant exception, the distributions of the population units and, probably, the roosting sites themselves seemed to have changed very little over the 21-year interval. Other failures to match old with new roost sites on the map could well reflect failures in the survey procedures.

One roost located in 1911 in Schuyler County in the south-central part of the state was, however, definitely absent in 1932. Its disappearance suggested an interesting story of distribution change by a whole population unit that occurred in the winter of 1922–23. A severe local ice storm that winter resulted in heavy mortality. The eyes of thousands of birds were glazed over, forcing the birds to the ground and preventing feeding. Specimens picked up by a farmer were diagnosed as having an eye disease, xerophthalmia, associated with vitamin A deficiency, but a direct physical response to the ice itself seems a more likely cause.

It seems unlikely that all members of that roosting population were killed by this single event, but the several thousand birds that had roosted up until 1922 at another location, in the vicinity of

Montour Falls, also disappeared. Furthermore the surrounding fields, well stocked with wintering crow flocks up to that date, were completely abandoned after 1922. I scoured these fields in 1932 and 1933 without seeing a single crow. Clearly the whole area, several hundred square miles of it, demonstrated as capable of supporting a good crow population, had been summarily abandoned, a remarkable phenomenon that suggests in a dramatic way how attached a whole population unit can be to a foraging area and how drastic their response can be to a catastrophe of this magnitude. A search of the literature in subsequent years revealed only one similar event—an abrupt disappearance of a relatively small population of ravens from a winter roost and its surrounding foraging areas in California in the 1920s.

Starlings are even more spectacular than crows in their gregariousness at winter roosts, especially in the large midlatitude cities like Washington, Baltimore, and Philadelphia, where they flood into the downtown buildings in hundreds of thousands and even millions. Theatergoers are familiar with these spectacles—endless rows of little black birds lined up along ledges and windowsills often in the glare of floodlights, dozing or squeaking in apparent delight at the traffic below. The roosting flights coming in from outlying areas are equally remarkable—seemingly endless rivers of swiftly flying birds, dashing overhead to join the throngs already there. David Lack, a British ornithologist trying to identify mysterious, phantom-like radar clouds reported as drifting towards the center of London every evening and out from it every morning, discovered that they were, in fact, “clouds” of starlings on their daily flights to and from the center city.

When not at a crow roost in those Cornell years, I was often checking starling roosts in barns, cupolas, or church steeples in the smaller upstate towns and vil-

lages where these structures substituted for the tall city buildings. Sitting in the darkened corner of a cupola or church tower at dusk, I could see just how the birds chose their perches for the night, and how they interacted as they prepared for the night's sleep. If I sat motionless as darkness closed in, the starlings apparently could not see me, or at least they did not recognize me as dangerous. Often they would select my shoulders or my cap as a perch, nibbling at my ears as they settled down for the night.

One evening a student friend, needing a series of specimens for his research, asked if starlings could be readily caught in such a roost. I assured him they could, and together we headed for a church in Owego where I had seen hundreds of starlings entering through ventilation slats in the steeple. We contacted the minister and got his permission to enter and climb the steeple to collect the necessary birds one Saturday evening. We promised to be out and have the place cleaned up by midnight. All went well and by ten o'clock we had a sackful of dead starlings. The job now was to get that sack, weighing perhaps thirty or forty pounds, down the ladder from the steeple tower. Finding the descent with the heavy load rather hazardous, we slid the sack down the sloping ladder to the steeple floor some twenty feet below. That's where the trouble started!

The slide was steep and swift, and the steeple floorboards were weaker than we had anticipated. The sack went right through those boards and down into the church entry, carrying a pile of bird droppings with it! How could we possibly clean up that mess before church officials and parishioners started filing in the next morning? Fortunately we found a broom and some newspapers, and by midnight we had done a pretty good job on the dirt and the shattered floorboards above the vestibule. But there was the gaping hole in the ceiling. What if any-

one should look up to praise the Lord as he or she entered the atrium in the morning? Not wishing to break the minister's sleep on a Sunday morning, we phoned him about seven in the morning and, to our relief, were assured that no one would notice it. At least we had done our best to ameliorate an unfortunate accident and, in any event, nothing more could be done at this point. No complaints were registered, and our mission had been accomplished. Praise the Lord!

In 1932 and 1933, Emlen spent his summers "working as a ranger naturalist in the National Park Service at Glacier National Park. The salary was less than the cost of the ranger's uniform I was obliged to buy plus the cost of gasoline for that western trip." Em-



Figure 14. Emlen as Ranger-Naturalist at Glacier National Park, 1932. Emlen Family Archives.

len led nature hikes daily, maintained an annotated wildflower exhibit, and gave a slide talk every evening on the park's natural history. Regarding one of the amenities of civilized life—show-  
ering—he was not a happy camper, but he opportunistically used the situation to accomplish laundry tasks as well: “... since they charged me 75 cents per shower, I invariably dipped hastily into the 35°F glacial water of the lake to bathe and wash my clothes, at least my socks. This was accomplished by anchoring them under rocks on the shoreline and letting the waves beat mercilessly on them while I was out all day on my naturalist chores. . . .”

Returning to many of the same park duties in 1933, Emlen recalled two unforgettable experiences in the high mountains; the latter, in part, enriched his life forever.

On one of my free days Doc Ruhle (the park head naturalist) asked if I would conduct a visiting Park Service photographer along the recently completed Going-to-the-Sun Highway connecting, for the first time, the east and the west sides of the park along a spectacular scenic route between Lake MacDonald and Upper St. Mary's Lake. The highway was not yet officially opened, but privileged persons, and I would be considered one, were permitted access for special missions. Of course I was eager to see the new route and gladly accepted.

The route, recognized as an engineering feat of major significance, led steeply up the west slope at an even six-percent grade, over the snow-capped pass and down, again at six percent, to Upper St. Mary's Lake where I had been ranger naturalist the previous summer. Mountain goats were numerous on the snow slopes at the high altitudes, and marmots

could be seen at many points along the way on both slopes.

The photographer's equipment was awesome. It consisted of a huge 8- by 10-inch plate camera with a tilting lens and plate panels to permit corrections for distortions. All of this was mounted on a tripod sturdy enough to support the whole mechanism rigidly for lengthy time exposures.

By contrast the little Kodak box camera that I carried was a joke, but I was determined to take advantage of my guest's obvious photographic experience. After watching him laboriously set up his massive equipment, carefully pan each shot, then wait (sometimes for quite a while) for the moment when the light was just right, I decided to mimic him. So when he clicked his shot, I would raise and click my little box in unison.

The name of this impressive photographer was told to me, but it meant nothing to me at the time. Years later the name would come back to me with new meaning, and the person would become an inspiration. I had escorted Ansel Adams, one of the truly great nature photographers of all time. How I now wish that I had known the talent I was hosting on that brief outing in Glacier National Park!

But Going-to-the-Sun Highway was to be the site of a much more momentous event in my life later that summer. Virginia Merritt, the lovely coed from Cornell who had swept me off my feet back in Ithaca the previous year was driving west with her family and stopped by for a few days at the Lake MacDonald Hotel. They sat through one of my evening lectures and joined me on one of my local nature walks while my blood pressure rose. Then, on the second afternoon, I took Jinny up that six-percent grade on the Going-to-the-Sun Highway in my car and popped the question, just, as I learned, my father had done to my mother some thirty years before on the Gemi Pass in Switzerland. Jinny agreed,



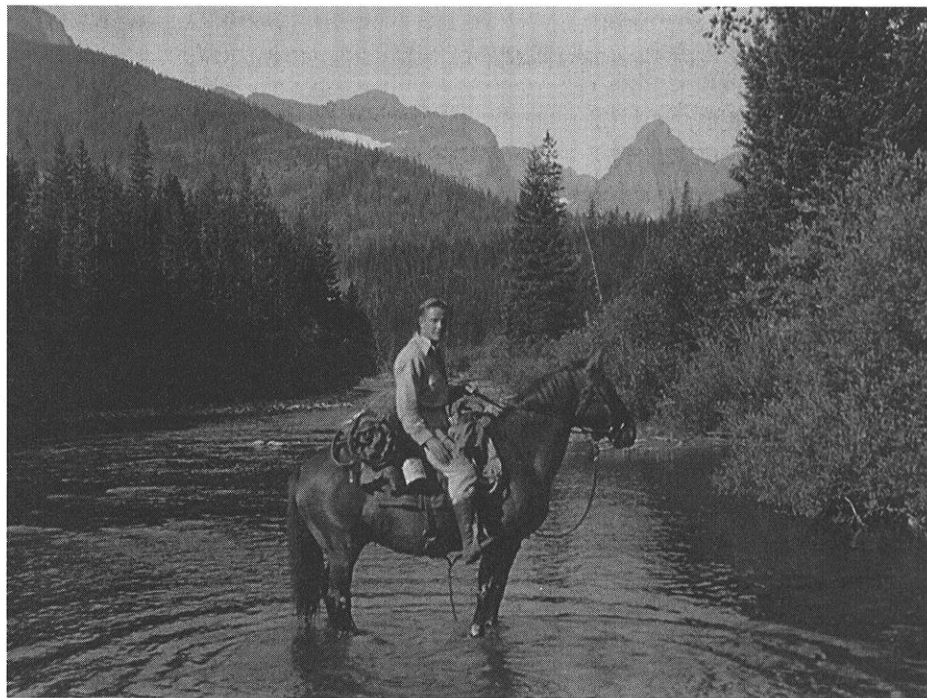


Figure 15. Emlen on horseback survey while Ranger-Naturalist at Glacier National Park, 1932–1933. Emlen Family Archives.

and we returned to report our intent to her parents at the hotel. All was downhill coasting from that moment until the following summer when we were married. All downhill except for a brief encounter with a small herd of mountain goats that blocked the highway on our descent. They reversed their direction and so did we, and we chased them uphill at 19 miles per hour, a figure that was duly recorded in my notebooks as the speed attainable by this species on a six-percent grade at 5,500 feet altitude.

Returning to Ithaca in the fall of 1933 my outlook on life had changed. There was much more I could do around Ithaca, but, having found the girl of my dreams, I was anxious to get a job and get going. I worked frantically on my thesis and with extensive help from Jinny, had it finished and typed, all 600 pages of it, by June 25 1934, our wedding day.

Emlen was married in the Ithaca Episcopal Church:

My attendance was assured from cousin Woody English who was assigned the responsibility of keeping tab on me “just in case I should find a bird’s nest on the way to the church.” I had saved enough money to trade in my old Ford for a flashy 1932 Chevrolet roadster, and we were off for a one-week honeymoon in Maine. On the way we had lunch at the swanky Lake Placid Club, and I impressed my new bride by rolling off a list of wealthy Philadelphia friends, actually vague acquaintances of my parents, who might vouch for my reputation in that city. In the dining room, Jinny recognized a waiter, an old Cornell friend from Ithaca who, sharing our spirit of celebration, helped us decide on an appropriate dessert. Selected was the item



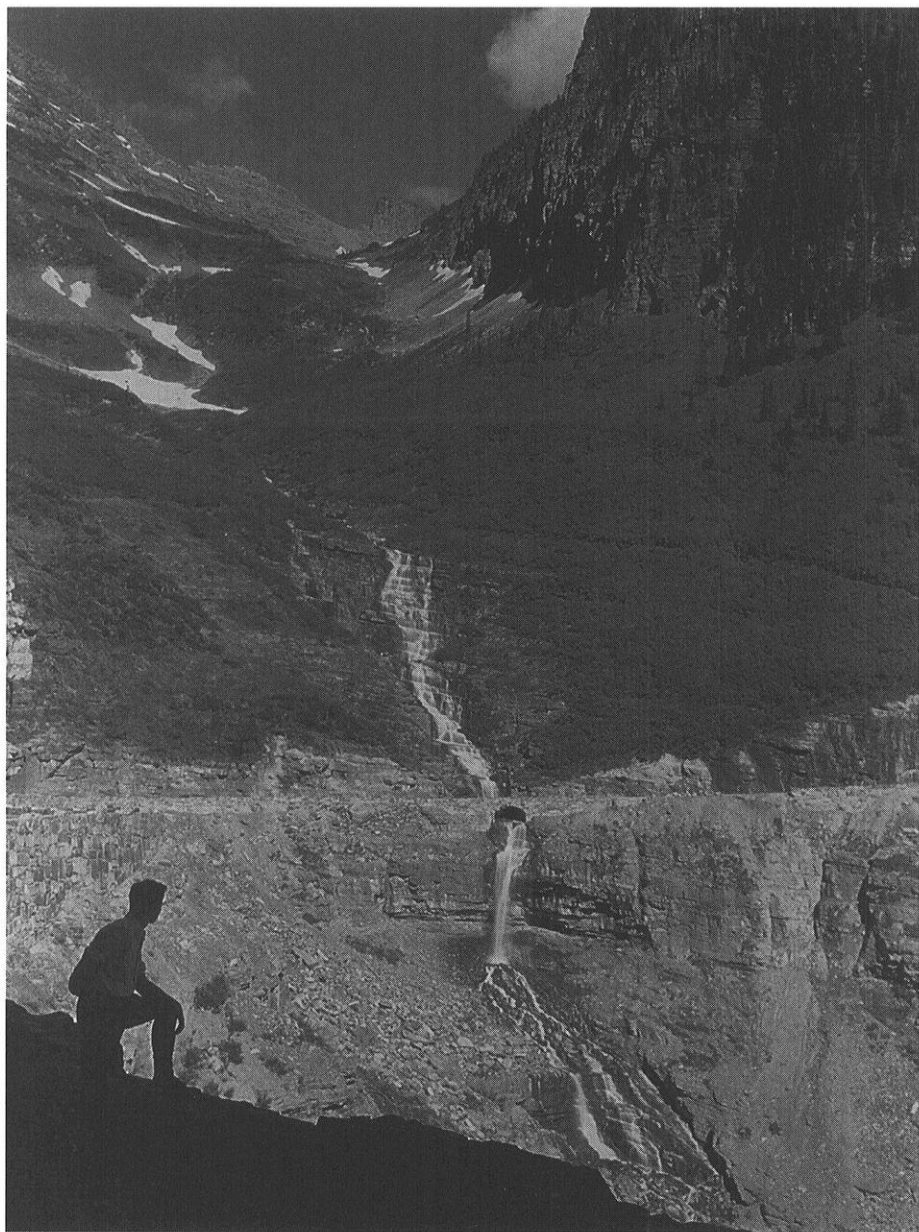


Figure 16. Photo by Ansel Adams of Emlen at Glacier National Park, where Emlen once served as personal guide for the famous photographer in 1933. Photo courtesy of National Park Service.

with the longest French name on the menu. A few minutes later he returned—holding high a plate with four stuffed prunes.

Emlen's main worry prior to his wedding day was employment. Earlier, he had driven to Madison to talk with

Aldo Leopold, who told him to contact him if he had no luck. Emlen had searched but had found nothing that he could seriously entertain. So he decided to contact Leopold once again. "I was desperate. I phoned Leopold in Wisconsin, and after hearing my story he said 'Come on out, I'll find something for you.'"

Leaving Ithaca was difficult for the newly married couple, but they gathered their "limited belongings together and hit the road for Madison, Wisconsin, in mid-July 1934."

Arriving on a steamy hot day, we were less than thrilled with our first glimpse of Wisconsin, but Aldo Leopold and his wife Estella greeted us warmly. They also

helped us find a room in a house on the corner of Langdon and Lake Streets, a house soon to be replaced by new University constructions and eventually the Wisconsin Center, which housed academic conventions. Forced to move within a few months we found an adequate and more permanent abode in the Clifford Court Apartments across from the campus on Orchard Street. Here we finished the year in relative comfort despite the location of our bedroom directly overhanging the Illinois Central tracks that delivered a load of mooing beef cattle to a nearby slaughterhouse every morning about half past four.

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Little Blue Heron *by Jack Bartholmai*

## **The Fall Season: 1997**

*by Mark S. Peterson*

**T**he fall of 1997 will not be remembered for the rarities that were found during the period, because few were seen for more than a brief period of time. Many were fly-bys or only landed long enough to be identified and then were off again. Missing were the many cooperative birds that were present during the fall of 1996 when 300 species were found in the state. A total of 292 species were located during the fall of 1997, the most noteworthy of these being the first state record of a White-winged Dove, which flew by Concordia University in Ozaukee County and was accepted as a hypothetical record. The fall of 1997 will probably be remembered most as the fall preceding a record El Niño winter, its effects beginning to be felt in Wisconsin by late November.

August was a warm, wet month. A high of 94°F was reported in the west-central part of the state during the last week of the month. During the month, the Lukes reported 6.4 inches of rainfall in Door County, the Smiths reported 4.32 inches in Oconto County, and Hale reported 3.6 inches in Jefferson County. Peterson found 19 species

of warblers in Shawano County on the 27th and Berner found 17 species in Portage County on the 30th.

September was again warm with a high of 95°F reported in the central part of the state during the first week, but the month was not as wet as August. Frost was reported in Caroline on the 21st. Berner reported 3.47 inches of rainfall in Portage County during the month, the Smiths reported 3.07 inches in Oconto County, and the Lukes reported 2.4 inches in Door County. Peterson found 16 species of warblers on the 10th and 17 species on the 19th in Shawano County, and Berner found 17 species on the 18th and 16 species on the 20th in Portage County. Four quarts of blackberries were found at the Navarino Wildlife Area in Shawano County on the 24th.

October was warm for the first part of the month with a high of 92°F in La Crosse on the 3rd. Rainfall was less than the previous two months with Berner reporting 2.5 inches in Portage County, the Lukes reporting 2.27 inches in Door County, and the Smiths reporting 1.42 inches in Oconto County. Snow flurries were reported in

Caroline on the 14th, and on the 26th Ashman reported 4 inches of snow in Madison, and Hale reported 2 inches of snow in Jefferson County. Ashman reported a major migration of passerines in Madison on the 10th.

November was mostly cold and windy. Snowfall amounts included 1 inch in Caroline and 3 inches in Oconto County on the 14th, 3 inches in Jefferson County on the 15th, and 2 inches in Barron County and 5 inches in Vilas County on the 22nd. A low of  $-8^{\circ}\text{F}$  was reported on the 23rd at Eagle River and Phillips. Berner reported ice-up on most lakes in Portage County on the 15th. Temperatures returned to above normal levels during the last week of the month, beginning a trend that would carry through most of the coming winter months.

Rarities found during the fall of 1997 included: Red-throated Loons in Door, Douglas, Manitowoc, Milwaukee, and Ozaukee Counties; a Pacific Loon in Douglas County; Eared Grebes in Door, Green Lake, Manitowoc, and Ozaukee Counties; Western Grebes in Douglas, Kenosha, and Ozaukee Counties; Snowy Egrets in Brown, Dodge, and Milwaukee Counties; a Little Blue Heron in Waukesha County; a Yellow-crowned Night-Heron in Milwaukee County; Trumpeter Swans in Burnett, Dane, Oconto, Pierce, and Portage Counties; Greater White-fronted Geese in Ashland, Bayfield, Burnett, Clark, Columbia, Dane, and Douglas Counties; a Ross' Goose in Dane County; a King Eider in Bayfield County; Harlequin Ducks in Ozaukee County; Barrow's Goldeneyes in Door, Milwaukee, and Ozaukee Counties; a Swallow-tailed Kite in Green Lake County; a Swainson's Hawk in Grant County; Golden Eagles in Dodge, Douglas, For-

est, Grant, Ozaukee, and Sheboygan Counties; Spruce Grouse in Oneida and Vilas Counties; a Yellow Rail in St. Croix County; a King Rail in Columbia County; American Avocets in Brown, Dane, Dodge, Marathon, Milwaukee, and Ozaukee Counties; a Western Sandpiper in Dodge County; Purple Sandpipers in Kewaunee and Sheboygan Counties; Buff-breasted Sandpipers in Portage, Racine, and Washington Counties; Parasitic Jaegers in Douglas and Ozaukee Counties; Thayer's Gulls in Kewaunee, Manitowoc, and Sheboygan Counties; Lesser Black-backed Gulls in Dane, Manitowoc, and Ozaukee Counties; Great Black-backed Gulls in Door, Kewaunee, Manitowoc, Milwaukee, and Sheboygan Counties; a Sabine's Gull in Marathon County; a White-winged Dove in Ozaukee County; Black-backed Woodpeckers in Douglas and Vilas Counties; Carolina Wrens in Milwaukee County; a Townsend's Solitaire in Sauk County; a Varied Thrush in Winnebago County; a White-eyed Vireo in Dane County; a Hooded Warbler in Portage County; a Western Tanager in Dane County; a Lark Sparrow in Trempeleau County; Nelson's Sharp-tailed Sparrows in Manitowoc and Milwaukee Counties; and Hoary Redpolls in Douglas, Langlade, and Oconto Counties.

## REPORTS

### (1 AUGUST–30 NOVEMBER 1997)

**Red-throated Loon.**—First reported on October 12 in Manitowoc County by Hewitt, Peterson, and Tessen. Tessen found 4 in Ozaukee County on October 29. Last reported by Tessen in Ozaukee County on November 8.

**Pacific Loon.**—On October 17, Putz found one off Wisconsin Point in Douglas County. See "By the Wayside."

**Common Loon.**—Found at the beginning of the period south to Barron, Door, and Marathon Counties, Berner found 33 in Portage County on November 3. Reported at the end of the period in Dane and Milwaukee Counties.

**Pied-billed Grebe.**—Reported throughout the state at the beginning of the period. Parsons found 40 in Walworth County on October 16. Found at the end of the period in Dane, Ozaukee, and Winnebago Counties.

**Horned Grebe.**—First reported on August 7 in Oneida County by the Fishers. Verch found over 250 in Ashland and Bayfield Counties on October 30. Found by Regan at the end of the period in Door County.

**Red-necked Grebe.**—Reported at the beginning of the period in Green Lake and Winnebago Counties. Last reported by Ziebell in Winnebago County on November 23.

**Eared Grebe.**—First reported by Tessen in Green Lake County on August 19. Pike found 4 on Lake Maria in Green Lake County on August 22. Last reported by Uttech in Ozaukee County on November 22.

**Western Grebe.**—Reported by Putz in Douglas County on October 5, by Uttech in Ozaukee County on November 5 and 6, and by Hoffman in Kenosha County on November 7.

**White Pelican.**—Found at the beginning of the period in Brown and Dodge Counties. Hewitt found over 500 in Trempeleau County on September 6. Last reported on October 29 in La Crosse County by Dennis Kuecherer.

**Double-crested Cormorant.**—Reported at the beginning of the period south to Milwaukee County. Hewitt found over 1,000 in Trempeleau County on September 6. Found at the end of the period in Brown and Ozaukee Counties.

**American Bittern.**—Found at the beginning of the period in Ashland, Bayfield, Burnett, Clark, and Manitowoc Counties. Last reported by Domagalski in Milwaukee County on November 1.

**Least Bittern.**—Reported at the beginning of the period in Brown and Winnebago Counties. Last reported by Ziebell in Winnebago County on September 20.

**Great Blue Heron.**—Found throughout the state at the beginning of the period. Hewitt reported two to three dozen in Waupaca County on September 12. Reported at the end of the period north to Oconto County.

**Great Egret.**—Found at the beginning of the period in Brown, Burnett, Dodge, Fond du Lac, Milwaukee, and Winnebago Counties. Peterson found 70 in Fond du Lac County on August 8. Last reported by Domagalski in Dodge County on November 9.

**Snowy Egret.**—Reported at the beginning of the period in Brown County by Hansen and Tessen. Hansen found 3 in Brown County on September 20. Last reported on September 22 in Brown County by Hansen and Regan.

**Little Blue Heron.**—Wood found one at Vernon Marsh in Waukesha County on August 24.

**Cattle Egret.**—Found at the beginning of the period in Brown, Oconto, and Winnebago Counties. Ziebell found 84 in Winnebago County on September 9. Last reported by Ziebell in Winnebago County on September 19.

**Green Heron.**—Reported at the beginning of the period north to Barron, Clark, Marathon, and Door Counties. Diehl found 7 in Portage County on September 25. Last reported by Hall in Columbia County on November 7.

**Black-crowned Night-Heron.**—Found at the beginning of the period in Brown, Door, Manitowoc, Milwaukee, and Winnebago Counties. Ziebell found 42 in Winnebago County on October 4. Reported at the end of the period in Dodge and Milwaukee Counties.

**Yellow-crowned Night-Heron.**—Reported by Robbins in Milwaukee County on August 27.

**Tundra Swan.**—First reported by Robbins in Dodge County on September 27. The U.S. Fish and Wildlife Service reported 8,745 at the open area of Pool 9 in Crawford County on November 17. Found in scattered areas throughout the state at the end of the period.

**Trumpeter Swan.**—Reported at the beginning of the period in Burnett County by Hoefler.



Berner found 5 in Portage County on November 2, and Evanson found 5 in Dane County on November 16. Reported at the end of the period in Burnett and Oconto Counties. Five were reported to have been shot in the state during the fall period.

**Mute Swan.**—Found at the beginning of the period in Ashland, Bayfield, Dane, Door, and Washington Counties. Verch found 6 in Ashland and Bayfield Counties on September 30. Reported at the end of the period in Dane, Door, and Shawano Counties.

**Greater White-fronted Goose.**—First reported by Verch in Ashland and Bayfield Counties on September 16. Last reported by Ashman in Columbia County on November 19 where 5 were present.

**Snow Goose.**—First reported by Hoeffler in Burnett County on September 18. Ashman found 55 in Columbia County on November 1. Reported at the end of the period in Columbia County by Ashman.

**Ross' Goose.**—Reported by Robbins in Dane County from 10 to 22 October. See "By the Wayside."

**Canada Goose.**—Found throughout the state at the beginning of the period. The U.S. Fish and Wildlife Service found 3,845 at Pool 7 in La Crosse County on November 17. Reported throughout the state at the end of the period.

**Wood Duck.**—Found throughout the state at the beginning of the period. Ziebell found 74 in Winnebago County on September 20. Reported at the end of the period in Ashland, Bayfield, and Door Counties.

**Green-winged Teal.**—Reported at the beginning of the period south to Milwaukee County. The U.S. Fish and Wildlife Service found 350 at Pool 7 in La Crosse County on October 1. Found at the end of the period in Columbia, Dodge, and Manitowoc Counties.

**American Black Duck.**—Found at the beginning of the period south to Dane and Waushara Counties. The U.S. Fish and Wildlife Service found 455 at Pool 7 in La Crosse County on November 4. Found in scattered areas throughout the state at the end of the period.

**Mallard.**—Found throughout the state during the period. The U.S. Fish and Wildlife Service found 13,225 at Pool 9 in Crawford County on November 4.

**Northern Pintail.**—Reported at the beginning of the period in Burnett County by Hoeffler. The U.S. Fish and Wildlife Service found 340 at Pool 7 in La Crosse County on November 4. Reported at the end of the period in Door and Sheboygan Counties.

**Blue-winged Teal.**—Found throughout the state at the beginning of the period. Ziebell found 406 in Winnebago County on September 20. Last reported on November 11 in Ashland and Bayfield Counties by Verch.

**Northern Shoveler.**—Reported at the beginning of the period in Barron, Milwaukee, and Winnebago Counties. The U.S. Fish and Wildlife Service found 705 in Pool 6 in Trempealeau County on November 9. Reported at the end of the period in Dane, Fond du Lac, Milwaukee, and Winnebago Counties.

**Gadwall.**—Reported at the beginning of the period in Burnett, Milwaukee, and Winnebago Counties. The U.S. Fish and Wildlife Service found 1,125 on Pool 8 in Vernon County on November 9. Found at the end of the period in Dane, Dodge, Milwaukee, and Winnebago Counties.

**American Wigeon.**—Found at the beginning of the period in Burnett County by Hoeffler. The U.S. Fish and Wildlife Service found 3,630 on Pool 7 in La Crosse County on October 9. Reported at the end of the period in Dane and Milwaukee Counties.

**Canvasback.**—First reported on August 16 in Dodge County by Hall. On November 17 the U.S. Fish and Wildlife Service found 120,120 on the open area and 72,500 on the closed area of Pool 9 in Crawford County. Reported at the end of the period in Ashland, Bayfield, Columbia, Dane, Ozaukee, Washington, and Winnebago Counties.

**Redhead.**—Reported at the beginning of the period in Dodge and Winnebago Counties. Regan found 1,000 in Door County on October 16. Found at the end of the period in Dane, Door, and Milwaukee Counties.

**Ring-necked Duck.**—Reported at the beginning of the period in Barron, Burnett, Douglas, Shawano, and Washburn Counties. The U.S. Fish and Wildlife Service found 17,295 at Pool 7 in La Crosse County on November 4. Found at the end of the period in Ashland, Bayfield, Dane, Milwaukee, and Winnebago Counties.

**Greater Scaup.**—Found at the beginning of the period by Gustafson and Korducki in Milwaukee County. Zehner found 600 in Milwaukee County on November 25. Reported at the end of the period in Ashland, Bayfield, Door, Manitowoc, Milwaukee, Ozaukee, Sheboygan, and Winnebago Counties.

**Lesser Scaup.**—Reported at the beginning of the period in Dane and Milwaukee Counties. Gamache found 55 in Dunn County on November 8. Found in scattered areas throughout the state at the end of the period.

**Scaup Sp.**—On November 4, 44,000 were found by the U.S. Fish and Wildlife Service at Pool 9 in Crawford County.

**King Eider.**—On October 27, via Verch, one was reported to have been harvested by a hunter at the head of the bay near the junction of U.S. Highway 2 and Wisconsin Highway 13 in Bayfield County. See "By the Wayside."

**Harlequin Duck.**—Reported in Ozaukee County by Domagalski on October 11 and 12, by Uttech on October 11 and 18, and by Putz on November 26.

**Oldsquaw.**—First reported by Uttech in Ozaukee County on October 13. The Lukes found 2,000 in Door County on November 5. Found at the end of the period in Door, Milwaukee, and Ozaukee Counties.

**Black Scoter.**—First reported by Sontag in Manitowoc County on October 4. Peterson and Tessen found 30 in Ozaukee County on October 12. Found at the end of the period in Sheboygan County by the Brassers.

**Surf Scoter.**—First reported by Putz in Douglas County on October 7. Peterson and Tessen found 40 in Ozaukee County on October 12. Reported at the end of the period in Green Lake and Ozaukee Counties.

**White-winged Scoter.**—First reported by Regan in Door County on September 17. Tessen found 20 in Ozaukee County on October 25. Found at the end of the period in Green Lake, Milwaukee, and Sheboygan Counties.

**Common Goldeneye.**—Reported at the beginning of the period in Door County by the Lukes. The Smiths found 2,600 in Oconto County on November 26. Found throughout the state at the end of the period.

**Barrow's Goldeneye.**—Reported on November 9 in Milwaukee County by Wood, on November 16 in Door County by Stover, in Ozaukee County on November 16 by Domagalski, and on November 17 by Tessen. See "By the Wayside."

**Bufflehead.**—First reported on August 10 by Gregg in Price County with a Common Goldeneye with a brood. The U.S. Fish and Wildlife Service found 600 on October 28 on Pool 9 in Crawford County. Found in scattered areas throughout the state at the end of the period.

**Hooded Merganser.**—Reported at the beginning of the period south to Milwaukee County. Ashman found 115 in Dane County on November 15. Found in scattered areas throughout the state at the end of the period.

**Common Merganser.**—Found at the beginning of the period in Door and Douglas Counties. Ziebell found 800 in Winnebago County on November 23. Found throughout the state at the end of the period.

**Red-breasted Merganser.**—Reported at the beginning of the period in Ashland, Bayfield, and Door Counties. Tessen found thousands in Ozaukee County on October 26. Found at the end of the period north to Door County.

**Ruddy Duck.**—Found at the beginning of the period in Dane, Dunn, Green Lake, and Winnebago Counties. Tessen found 5,000 to 6,000 in Green Lake County on October 16. Reported at the end of the period north to Door County.

**Turkey Vulture.**—Found throughout the state at the beginning of the period. Gamache found 33 in Dunn County on August 22. Last reported on October 29 in Pierce County where Carlsen reported an injured bird that was captured.

**Osprey.**—Reported at the beginning of the period south to Winnebago County. Berger found 20 in Sheboygan County on September 19. Last reported by Cowart in Ozaukee County on November 10.

**Swallow-tailed Kite.**—One seen by Ratering in Green Lake County on August 22. See "By the Wayside."

**Bald Eagle.**—Reported at the beginning of the period south to La Crosse and Dodge Counties. The U.S. Fish and Wildlife Service found 55 at Pool 7 in La Crosse County on November 24. Found at the end of the period south to Dane County.

**Northern Harrier.**—Found throughout the state at the beginning of the period. Dennis Kuecherer found 15 in La Crosse County on October 14. Found at the end of the period in Dodge, Oconto, Ozaukee, and Winnebago Counties.

**Sharp-shinned Hawk.**—Reported at the beginning of the period south to Winnebago County. Berger found 213 in Sheboygan County on October 14. Reported at the end of the period in Barron, Brown, Door, Outagamie, and Sheboygan Counties.

**Cooper's Hawk.**—Found throughout the state at the beginning of the period. Ashman found 5 in Dane County on September 11, and Tessen found 5 in Ozaukee County on October 14. Reported at the end of the period north to Marathon and Door Counties.

**Northern Goshawk.**—Reported during the period in Door County by the Lukes, and in Douglas County on October 29 by Putz.

**Red-shouldered Hawk.**—Reported at the beginning of the period in Door, Dunn, Outagamie, Portage, Shawano, and Washburn Counties. Berner found 4 in Portage County on August 9. Last reported by Ashman in Dane County on November 4.

**Broad-winged Hawk.**—Reported at the beginning of the period south to Dunn and Portage Counties. Ziebell found 228 in Winnebago County on September 20. Last reported by Anderson and Petznick in Outagamie County on October 24.

**Swainson's Hawk.**—Domagalski and Mueller saw one in Grant County on November 8.

**Red-tailed Hawk.**—Found throughout the state during the period. Cowart found 141 in Ozaukee County on November 10.

**Rough-legged Hawk.**—First reported by Hoefler in Burnett County on October 5. Hewitt found 11 in Portage County on November 16. Found throughout the state at the end of the period.

**Golden Eagle.**—First reported by Tessen in Dodge County on September 3. Last reported by Tessen in Forest County on November 12. Also found in Douglas, Grant, Ozaukee, and Sheboygan Counties.

**American Kestrel.**—Reported throughout the state at the beginning of the period. Ziebell found 10 in Winnebago County on November 27. Found at the end of the period north to Burnett, Clark, Oconto, and Door Counties.

**Merlin.**—Reported at the beginning of the period in Ashland, Bayfield, Door, and Douglas Counties. Cowart found 140 in Ozaukee County on September 29. Last reported by Korducki in Milwaukee County on November 29.

**Peregrine Falcon.**—Reported at the beginning of the period in Brown and Milwaukee Counties. Cowart found 65 in Ozaukee County on September 29. Found at the end of the period in Milwaukee and Ozaukee Counties.

**Gray Partridge.**—Reported during the period in Brown, Columbia, Door, Ozaukee, and Waupaca Counties. Domagalski found 12 in Ozaukee County on October 28.

**Ring-necked Pheasant.**—Reported at the beginning of the period north to Burnett, Barron, Clark, Marathon, Oconto, and Door Counties. The Smiths found 3 in Oconto County on August 21, and Gamache found 3 in Dunn County on November 3.

**Spruce Grouse.**—Reardon found 5 in Oneida County on August 14 and 4 in Oneida County on September 11, and Baughman found 7 in Vilas County on November 13.

**Ruffed Grouse.**—Reported during the period south to Dane County. Berner found 6 in Portage County on November 3.

**Greater Prairie-Chicken.**—Reported during the period in Clark, Marathon, and Portage Counties. Belter found 57 in Portage County on November 17.

**Sharp-tailed Grouse.**—Found during the period in Ashland, Bayfield, Burnett, and Douglas Counties.

**Wild Turkey.**—Reported during the period north to Burnett, Clark, Marathon, Oconto, and Door Counties. Carlsen found 30 in Pierce County on October 15.

**Northern Bobwhite.**—Found during the period in Clark, Dane, Marquette, Richland, and Rock Counties. Cederstrom found 10 in Rock County on October 24.

**Yellow Rail.**—Berner found one at Oakridge Lake in St. Croix County on October 9.

**King Rail.**—Tessen found one in Columbia County on August 19.

**Virginia Rail.**—Reported at the beginning of the period in Dane, Shawano, and Winnebago Counties. Hall found 3 in Dodge County on August 16, and Ashman found 3 in Dane County on November 21. Reported at the end of the period in Dane County by Ashman.

**Sora.**—Reported at the beginning of the period in scattered areas throughout the state. Ashman found 22 in Dane County on September 10. Last reported by Burcar in Dodge County on October 7.

**Common Moorhen.**—Found at the beginning of the period in Brown, Dane, and Winnebago Counties. Tessen found 35 in Brown County on September 12. Last reported by Hansen in Brown County on October 24.

**American Coot.**—Reported in scattered areas throughout the state at the beginning of the period. The U.S. Fish and Wildlife Service found 46,570 at Pool 7 in La Crosse County on October 28. Found at the end of the period in scattered areas throughout the state. Almost 12,000 suc-

cumbed to an intestinal parasite in Shawano Lake during the period.

**Sandhill Crane.**—Found throughout the state at the beginning of the period. Hewitt found 1,000 to 2,000 in Waushara County on October 30, and Parsons found 1,500 in Walworth County on November 8. Last reported by the Lukes in Door County on November 24.

**Black-bellied Plover.**—First reported by Korducki in Milwaukee County on August 3. Last reported by Berner and Hall in Portage County on November 8.

**American Golden-Plover.**—First reported by Ashman in Dane County on August 15. Peterson found 47 in Portage County on September 14. Last reported by Frank in Ozaukee County on October 30.

**Semipalmated Plover.**—Reported at the beginning of the period in Dane, Milwaukee, and Shawano Counties. Tessen found 15 in Marquette County on September 3. Last reported by Putz in Douglas County on October 17.

**Killdeer.**—Found throughout the state at the beginning of the period. Ashman found 365 in Dane County on August 20. Last reported by Burcar in Dane County on November 15.

**American Avocet.**—First reported on August 15 at Horicon Marsh by Hall and Pike. Belter and Ott found 11 in Marathon County on August 26. Last reported on September 18 by Belter in Marathon County. Also reported from Brown, Dane, Milwaukee, and Ozaukee Counties.

**Greater Yellowlegs.**—Reported at the beginning of the period in Brown, Dane, Dodge, Douglas, and Fond du Lac Counties. Hall found 9 in Portage County on September 19. Last reported on November 9 in Dane County by Ashman and in Dodge County by Domagalski.

**Lesser Yellowlegs.**—Found in scattered areas throughout the state at the beginning of the period. Tessen found 100 in Winnebago County on August 24. Last reported by Putz in Douglas County on November 6.

**Solitary Sandpiper.**—Found in scattered areas throughout the state at the beginning of the period. Belter found 26 in Marathon County

on September 5. Last reported by Putz in Douglas County on October 12.

**Willet.**—First reported on August 10 in Milwaukee County by Bontly, Domagalski, Korducki, and Wood. Last reported by Uttech in Ozaukee County on October 9.

**Spotted Sandpiper.**—Found throughout the state at the beginning of the period. Ashman found 8 in Dane County on August 17. Last reported by Verch in Ashland and Bayfield Counties on October 25.

**Upland Sandpiper.**—Reported by the Lukes in Door County at the beginning of the period.

**Ruddy Turnstone.**—First reported by Sonntag in Manitowoc County on August 4. Last reported by Tessen in Kewaunee County on August 28.

**Red Knot.**—First reported by Regan in Brown County on September 3. Last reported by Berger in Sheboygan County on November 10.

**Sanderling.**—Reported at the beginning of the period in Dane, Dodge, and Manitowoc Counties. Ziebell found 6 in Winnebago County on September 12, and Tessen found 6 in Douglas County on September 23. Last reported by Domagalski in Sheboygan County on November 22.

**Semipalmated Sandpiper.**—Found at the beginning of the period in Dane, Dodge, Fond du Lac, Manitowoc, Milwaukee, and Washington Counties. Ashman found 60 in Dane County on August 17. Last reported by Tessen in Dodge County on November 1.

**Western Sandpiper.**—Reported by Tessen in Dodge County on August 17 and 19.

**Least Sandpiper.**—Reported at the beginning of the period in Brown, Columbia, Dane, Dodge, Fond du Lac, Milwaukee, and Shawano Counties. Ashman found 115 in Dane County on August 8. Last reported by Tessen in Dodge County on November 1.

**White-rumped Sandpiper.**—First reported by Robbins in Dane County on August 3.

Last reported by Korducki in Milwaukee County, where 4 were present on November 18.

**Baird's Sandpiper.**—First reported on August 3 by Ashman and Robbins in Dane County. Tessen found 5 in Marquette County on September 3. Last reported by Putz in Douglas County on October 9.

**Pectoral Sandpiper.**—Reported at the beginning of the period in Dane, Dodge, Fond du Lac, Portage, and Shawano Counties. Ashman found 55 in Dane County on October 17. Reported at the end of the period in Kewaunee County by Regan and Tessen.

**Purple Sandpiper.**—Reported by Wood in Sheboygan Harbor on November 16 and by Peterson in Kewaunee Harbor on November 28. See "By the Wayside."

**Dunlin.**—First reported by Gamache in Dunn County on September 3. Tessen found 350 in Dodge County on November 1. Last reported by Domagalski in Dodge County on November 11.

**Stilt Sandpiper.**—Reported at the beginning of the period in Dane and Dodge Counties. Tessen found 25 in Dodge County on August 19. Last reported by Tessen in Dodge County on October 16.

**Buff-breasted Sandpiper.**—First reported by Hall in Portage County on August 1. Korducki found 13 in Racine County on August 5. Last reported by Mueller in Racine County on September 7.

**Short-billed Dowitcher.**—Found at the beginning of the period in Dane, Dodge, and Fond du Lac Counties. Hewitt found about 2 dozen in Waupaca County on August 25. Last reported by Tessen in Dodge County on November 1.

**Long-billed Dowitcher.**—First reported by Tessen in Dodge County on September 3. Tessen found over 170 in Dodge County on October 25. Last reported by Domagalski in Dodge County on November 9.

**Common Snipe.**—Reported at the beginning of the period south to Dane County. Ziebell found 22 in Winnebago County on October 4.

Last reported by Carlsen in Pierce County on November 28.

**American Woodcock.**—Found at the beginning of the period south to Washington and Ozaukee Counties. Last reported by Bontly and Diehl in Milwaukee County on November 4.

**Wilson's Phalarope.**—Reported by Uttech in Ozaukee County on August 1. Last reported by Tessen in Dodge County on August 19.

**Red-necked Phalarope.**—First reported by Pike in Horicon Marsh on August 15. Tessen found 10 in Green Lake County on August 24. Last reported by Tessen in Green Lake County on September 3.

**Parasitic Jaeger.**—Reported by Putz at Wisconsin Point in Douglas County on October 18 and 19 and by Robbins and Tessen in Ozaukee County on October 25. See "By the Wayside."

**Jaeger Sp..**—Reported by Regan in Kewaunee County on August 15 and 24 and by Tessen in Douglas County on September 23.

**Franklin's Gull.**—First reported by Regan in Kewaunee County on August 4. Regan found 3 in Brown County on September 29. Last reported by Verch in Ashland and Bayfield Counties on October 12.

**Bonaparte's Gull.**—Reported at the beginning of the period in Green Lake, Manitowoc, Milwaukee, Ozaukee, and Sheboygan Counties. Verch found 92 in Ashland and Bayfield Counties on October 28. Last reported by Belter in Marathon County on November 17.

**Ring-billed Gull.**—Found throughout the state during the period. Ziebell found 1,600 in Winnebago County on August 4.

**Herring Gull.**—Found throughout the state during the period. Diehl found 1,200 in Door County on October 16.

**Thayer's Gull.**—First reported by Regan in Kewaunee County on October 24. Last reported in Sheboygan County on November 29 by Hall and Tessen.

**Lesser Black-backed Gull.**—Reported by Uttech in Ozaukee County on September 20; in Dane County on October 6 and November 14 by Robbins, and from October 7 to the end of the period by Burcar; and in Manitowoc County on November 6 by Tessen.

**Glaucous Gull.**—First reported by Berger in Sheboygan County on September 11. Regan reported a maximum of 3 in Kewaunee County. Found at the end of the period in Brown, Douglas, Kewaunee, Manitowoc, and Ozaukee Counties.

**Great Black-backed Gull.**—Reported at the beginning of the period in Sheboygan County by the Brassers. Tessen found 4 on November 6 and 4 on November 17 in Manitowoc County. Found at the end of the period in Kewaunee and Manitowoc Counties.

**Sabine's Gull.**—On August 26, Belter and Ott saw one at Lake Wausau in Marathon County. See "By the Wayside."

**Caspian Tern.**—Reported at the beginning of the period in Brown, Dane, Door, Manitowoc, and Milwaukee Counties. Sontag found 12 in Manitowoc County on August 2. Last reported by Tessen in Brown County on October 6.

**Common Tern.**—Found at the beginning of the period in Ashland, Bayfield, Douglas, Manitowoc, and Milwaukee Counties. Regan found 80 in Brown County on September 23. Last reported by Verch in Ashland and Bayfield Counties on October 19.

**Forster's Tern.**—Reported at the beginning of the period in Brown, Manitowoc, Milwaukee, and Winnebago Counties. The Smiths found 28 in Oconto County on August 11. Last reported by Verch in Ashland and Bayfield Counties on October 16.

**Black Tern.**—Reported at the beginning of the period in Dane, Dunn, Shawano, Washington, and Winnebago Counties. Ashman found 10 in Dane County on August 4. Last reported by Ashman in Dane County on September 10.

**Rock Dove.**—Found throughout the state during the period. Belter found over 250 in Marathon County on October 10.



**Mourning Dove.**—Reported throughout the state during the period. Ziebell found 302 in Winnebago County on September 20.

**White-winged Dove.**—Coward saw one fly by Concordia University in Ozaukee County on September 29. This record has been accepted as hypothetical by the records committee and is the first record of this species in the state. See "By the Wayside."

**Black-billed Cuckoo.**—Reported at the beginning of the period south to Richland and Dane Counties. Berner found 3 in Portage County on August 25, and Hansen found 3 in Brown County on August 28. Last reported by Cowart in Ozaukee County on October 5.

**Yellow-billed Cuckoo.**—Found at the beginning of the period in Burnett, Dane, Door, Dunn, Portage, and Richland Counties. Last reported by Hansen in Brown County on October 9.

**Eastern Screech-Owl.**—Reported during the period in Brown, Dane, Milwaukee, Ozaukee, Richland, Shawano, and Waupaca Counties.

**Great Horned Owl.**—Found throughout the state during the period. Diehl found 3 in Washington County on August 1, and the Smiths found 3 in Oconto County on September 7.

**Snowy Owl.**—First reported by Malueg in Waushara County on October 27. Found at the end of the period in Ashland, Bayfield, Douglas, Oconto, and Ozaukee Counties.

**Barred Owl.**—Reported during the period south to Grant, Dane, and Jefferson Counties. Hall found 5 in Portage County on August 10.

**Long-eared Owl.**—First reported by the Smiths in Oconto County on October 1. Last reported by Uttech in Ozaukee County on November 8.

**Short-eared Owl.**—Reported by Hall in Portage County on November 12.

**Northern Saw-whet Owl.**—First reported by the Smiths in Oconto County on September 22. The Smiths found 22 in Oconto County on

October 20. Last reported by Wierzbicki in Brown County on November 11.

**Common Nighthawk.**—Found throughout the state at the beginning of the period. Regan found over 800 in Brown County on August 27. Last reported on October 2 in Brown County by Hansen and by Berger in Sheboygan County.

**Whip-poor-will.**—Reported at the beginning of the period in Shawano and Washburn Counties. Last reported by Peterson in Shawano County on September 11.

**Chimney Swift.**—Found throughout the state at the beginning of the period. Gamache found 185 in Dunn County on August 26. Last reported by Gustafson in Waukesha County on October 12.

**Ruby-throated Hummingbird.**—Reported throughout the state at the beginning of the period. Hewitt found one to two dozen in Waupaca County at feeders in late August. Last reported by Hewitt in Waupaca County in late October.

**Belted Kingfisher.**—Found throughout the state at the beginning of the period. Belter found 8 in Marathon County on August 23. Last reported by Ashman in Dane County on November 26.

**Red-headed Woodpecker.**—Found in scattered areas throughout the state at the beginning of the period. Mueller found 25 in Grant County on November 7. Reported at the end of the period in Burnett County by Hoefler.

**Red-bellied Woodpecker.**—Reported at the beginning of the period north to Burnett, Washburn, Clark, Marathon, Shawano, Oconto, and Door Counties. Berner found 4 in Portage County on September 13, Gamache found 4 in Dunn County on September 19, and Duerksen found 4 in Richland County on November 17.

**Yellow-bellied Sapsucker.**—Reported at the beginning of the period south to Brown and Outagamie Counties. The Fishers found 4 in Oneida County on August 3. Last reported by Bontly in Milwaukee County on November 4.

**Downy Woodpecker.**—Found throughout the state during the period. Belter found 10 in Marathon County on November 7.

**Hairy Woodpecker.**—Found throughout the state during the period. Belter found 8 in Marathon County on November 7.

**Black-backed Woodpecker.**—Reported by Baughman in Vilas County on August 2 and November 6 and by Tessen in Douglas County on September 23.

**Northern Flicker.**—Found throughout the state at the beginning of the period. Hewitt found 12 in Shawano County on September 1, and Parsons found 12 in Walworth County on September 23. Reported at the end of the period in Ozaukee and Washington Counties.

**Pileated Woodpecker.**—Reported during the period south to Grant, Dane, Washington, and Ozaukee Counties.

**Olive-sided Flycatcher.**—First reported on August 11 in Brown County by Tessen and in Portage County by Berner. Berner found 3 in Portage County on August 18. Last reported by Tessen in Milwaukee County on September 16.

**Eastern Wood-Pewee.**—Found throughout the state at the beginning of the period. Berner found 18 in Portage County on August 18. Last reported in Outagamie County on October 24 by Anderson and Petznick.

**Yellow-bellied Flycatcher.**—Reported at the beginning of the period in Vilas County by Baughman. Last reported by Uttech in Ozaukee County on September 29.

**Acadian Flycatcher.**—Found at the beginning of the period in Dane and Washington Counties. Last reported on August 22 at Little Suamico Ornithological Station, Oconto County.

**Alder Flycatcher.**—Reported at the beginning of the period south to Dane County. Peterson found 12 in Shawano County on August 2. Last reported on September 17 at Little Suamico Ornithological Station, Oconto County.

**Willow Flycatcher.**—Found at the beginning of the period north to Marathon and Sha-

wano Counties. Ashman found 4 in Dane County on August 1. Last reported by Burcar in Dane County on September 13.

**Least Flycatcher.**—Found throughout the state at the beginning of the period. Berner found 8 in Portage County on August 30. Last reported by Evanson in Dane County on September 20.

**Empidonax Sp.**—Reported by Robbins in Dodge County on September 27.

**Eastern Phoebe.**—Found throughout the state at the beginning of the period. Ashman found 14 in Dane County on October 10. Last reported by Ashman in Dane County on November 23.

**Great Crested Flycatcher.**—Reported throughout the state at the beginning of the period. Berner found 5 in Portage County on August 22. Last reported by Anderson and Petznick in Outagamie County on October 7.

**Eastern Kingbird.**—Reported throughout the state at the beginning of the period. Berner found 32 in Portage County on August 2. Last reported by Domagalski in Walworth County on October 7.

**Horned Lark.**—Reported at the beginning of the period north to Burnett, Clark, and Door Counties. Hall found 27 in Portage County on November 16. Found at the end of the period north to Burnett and Door Counties.

**Purple Martin.**—Found throughout the state at the beginning of the period. Ziebell found 1,150 in Winnebago County on August 19. Last reported by Ziebell in Winnebago County on September 8.

**Tree Swallow.**—Reported throughout the state at the beginning of the period. Tessen found over 2,500 in Green Lake County on September 3. Last reported by Ziebell in Winnebago County on October 19.

**Northern Rough-winged Swallow.**—Reported at the beginning of the period south to Dane and Milwaukee Counties. Gamache found 12 in Dunn County on August 11. Last reported by Hansen in Brown County on September 18.

**Bank Swallow.**—Reported at the beginning of the period south to Dane and Milwaukee Counties. Evanson found 19 in Dane County on August 9. Last reported by Verch in Ashland and Bayfield Counties on October 7.

**Cliff Swallow.**—Found throughout the state at the beginning of the period. Berner found 400 in Portage County on August 23. Last reported by Ott in Marathon County on September 25.

**Barn Swallow.**—Reported throughout the state at the beginning of the period. Parsons found 100 in Walworth County on September 11. Last reported by Tessen in Ozaukee County on October 18.

**Gray Jay.**—Found during the period in Douglas, Florence, Forest, and Vilas Counties. Hall found 11 in Forest County on November 14.

**Blue Jay.**—Found throughout the state during the period. Tessen found 250 in Winnebago County on September 25.

**American Crow.**—Reported throughout the state during the period. Belter found over 250 in Marathon County on October 18.

**Common Raven.**—Reported during the period south to Columbia and Sheboygan Counties. Berner found 7 in Portage County on November 11.

**Black-capped Chickadee.**—Found throughout the state during the period. Belter found over 80 in Marathon County on November 7.

**Boreal Chickadee.**—Reported during the period in Forest, Oneida, and Vilas Counties. Peterson found 7 in Forest County on November 13.

**Tufted Titmouse.**—Found during the period in Columbia, Dane, Dunn, Grant, and Milwaukee Counties.

**Red-breasted Nuthatch.**—Found throughout the state during the period. Peterson found 9 in Shawano County on August 22.

**White-breasted Nuthatch.**—Reported throughout the state during the period. Belter found 14 in Marathon County on November 7.

**Brown Creeper.**—Reported at the beginning of the period south to Washington County. Berner found 5 in Portage County on September 23, and Ashman found 5 in Dane County on October 7.

**Carolina Wren.**—Six observers found up to 2 individuals in Milwaukee County from September 11 to October 22.

**House Wren.**—Found throughout the state at the beginning of the period. Sontag found 10 in Manitowoc County on August 27. Last reported by Anderson and Petznick in Outagamie County on October 26.

**Winter Wren.**—Reported at the beginning of the period south to Portage County. Ashman found 29 in Dane County on October 10. Last reported by Ashman in Dane County on November 17.

**Sedge Wren.**—Reported at the beginning of the period south to Dane County. Peterson found 25 in Shawano County on August 2. Last reported on October 19 at Little Suamico Ornithological Station, Oconto County.

**Marsh Wren.**—Found in scattered areas throughout the state at the beginning of the period. Ziebell found 8 in Winnebago County on September 20. Last reported by Ashman in Dane County on October 30.

**Golden-crowned Kinglet.**—Reported at the beginning of the period in Oneida and Vilas Counties. Hewitt found 36 in Forest County on November 8. Reported at the end of the period in Dane, Milwaukee, Ozaukee, Portage, Washington, and Winnebago Counties.

**Ruby-crowned Kinglet.**—Found at the beginning of the period in Ashland, Bayfield, Oneida, and Vilas Counties. Ashman found 35 in Dane County on October 10. Last reported by Bontly in Dane County on November 20.

**Blue-gray Gnatcatcher.**—Reported at the beginning of the period north to Burnett and Washburn Counties. Domagalski found 9 in Washington County on August 13. Last reported

on October 5 in Milwaukee County by Korducki and in Outagamie County by Anderson and Petznick.

**Eastern Bluebird.**—Found throughout the state at the beginning of the period. Berner found 86 in Portage County on September 14. Last reported by Domagalski in Grant County on November 8.

**Townsend's Solitaire.**—Found at Devil's Lake in Sauk County on November 22 by Wood, on November 25 by Tessen, and on November 26 by Belter. See "By the Wayside."

**Veery.**—Reported at the beginning of the period north to Washburn and Vilas Counties. Berner found 7 in Portage County on September 2. Last reported on October 7 at Little Suamico Ornithological Station, Oconto County.

**Gray-cheeked Thrush.**—First reported by Tessen in Winnebago County on August 27. Berner found 7 in Portage County on September 2. Last reported by Burcar in Dane County on October 7.

**Swainson's Thrush.**—First reported by the Smiths in Oconto County on August 9. Berner found 44 in Portage County on September 2. Last reported by Gustafson in Milwaukee County on October 18.

**Hermit Thrush.**—Reported at the beginning of the period south to Portage County. Domagalski found 92 in Milwaukee County on October 5. Reported by Bontly in Milwaukee County at the end of the period.

**Wood Thrush.**—Found in scattered areas throughout the state at the beginning of the period. The Smiths found 3 in Oconto County on August 4. Last reported by Korducki in Milwaukee County on October 8.

**American Robin.**—Found throughout the state at the beginning of the period. Hall found 214 in Portage County on October 5. Reported in scattered areas throughout the state at the end of the period.

**Varied Thrush.**—David Kuecherer saw one in Winnebago County on October 24.

**Gray Catbird.**—Reported throughout the state at the beginning of the period. Berner found 19 in Portage County on September 10. Last reported by Ashman in Dane County on November 20.

**Brown Thrasher.**—Found throughout the state at the beginning of the period. Duerksen found 3 in Richland County on October 1. Reported at the end of the period in Brown County by Hansen.

**American Pipit.**—First reported by Ashman in Dane County on September 10. Berner found 85 in Portage County on October 4. Last reported by Putz in Douglas County on November 8.

**Bohemian Waxwing.**—First reported by Verch in Ashland and Bayfield Counties on October 28. Verch found 73 in Ashland and Bayfield Counties on November 29. Reported at the end of the period in Ashland, Bayfield, and Oconto Counties.

**Cedar Waxwing.**—Found throughout the state at the beginning of the period. Diehl found over 350 in Washington County on October 24. Reported at the end of the period north to Marathon and Oconto Counties.

**Northern Shrike.**—First reported by Ott in Marathon County on October 2. Found at the end of the period in scattered areas throughout the state.

**European Starling.**—Found throughout the state during the period. Peterson saw over 2,000 in Shawano County on September 15.

**White-eyed Vireo.**—Ashman found a very late one in Dane County from November 21 to the end of the period.

**Blue-headed Vireo.**—Reported at the beginning of the period in Ashland, Bayfield, Oneida, Shawano, and Vilas Counties. Peterson found 4 in Shawano County on October 2. Last reported by Bontly in Milwaukee County on November 4.

**Yellow-throated Vireo.**—Reported at the beginning of the period north to Burnett, Washburn, and Vilas Counties. Berner found 5 in Portage County on September 14. Last reported on

October 1 in Portage County by Berner and in Richland County by Duerksen.

**Warbling Vireo.**—Found throughout the state at the beginning of the period. Evanson found 5 in Dane County on September 13. Last reported by Hale in Jefferson County on September 21.

**Philadelphia Vireo.**—Reported at the beginning of the period in Douglas County by the La Valleys. Berner found 5 in Portage County on September 14. Last reported by Uttech in Ozaukee County on October 11.

**Red-eyed Vireo.**—Found throughout the state at the beginning of the period. Peterson found 27 in Shawano County on August 3. Last reported by Ashman in Dane County on November 4.

**Blue-winged Warbler.**—Reported at the beginning of the period in Dane, Dunn, Portage, Richland, and Washington Counties. Berner found 4 in Portage County on September 8. Last reported by Anderson and Petznick in Outagamie County on October 5.

**Golden-winged Warbler.**—Reported at the beginning of the period in Burnett, Portage, Shawano, and Washburn Counties. Peterson found 6 in Shawano County on August 27, and Belter found 6 in Marathon County on September 5. Last reported at Little Suamico Ornithological Station, Oconto County, on September 29.

**Brewster's Warbler.**—Reported by Domagalski in Washington County on August 25; at Little Suamico Ornithological Station, Oconto County, on August 26 and September 6; and in Shawano County by Peterson on August 27.

**Lawrence's Warbler.**—Reported at Little Suamico Ornithological Station, Oconto County, on September 7.

**Tennessee Warbler.**—Reported at the beginning of the period in Burnett County by Hoefler. Ashman found 100 in Dane County on September 7. Last reported on November 6 at Little Suamico Ornithological Station, Oconto County.

**Orange-crowned Warbler.**—First reported by Burcar in Florence County on September

3. Ashman found 9 in Dane County on October 10. Last reported by Ziebell in Winnebago County on October 30.

**Nashville Warbler.**—Found at the beginning of the period south to Portage County. Berner found 17 in Portage County on September 7. Last reported by the Lukes in Door County on October 22.

**Northern Parula.**—Reported at the beginning of the period in Ashland, Bayfield, Door, and Vilas Counties. Berner found 3 in Portage County on September 14. Last reported by Ashman in Dane County on November 3.

**Yellow Warbler.**—Found throughout the state at the beginning of the period. Regan found 30 in Brown County on August 3. Last reported by Korducki in Milwaukee County on September 16.

**Chestnut-sided Warbler.**—Reported at the beginning of the period south to Dane County. Peterson found 19 in Shawano County on August 27. Last reported by Anderson and Petznick in Outagamie County on October 13.

**Magnolia Warbler.**—Found at the beginning of the period in Ashland, Bayfield, Oneida, and Vilas Counties. Sontag found 18 in Manitowoc County on September 16. Last reported by Anderson and Petznick in Outagamie County on October 21.

**Cape May Warbler.**—First reported by Baughman in Vilas County on August 16. Tessen found 10 in Brown County on September 13. Last reported by Green in Ozaukee County on October 15.

**Black-throated Blue Warbler.**—Reported at the beginning of the period in Ashland, Bayfield, Shawano, and Vilas Counties. Peterson found 3 in Shawano County on August 3. Last reported by Ott in Marathon County on October 9.

**Yellow-rumped Warbler.**—Reported at the beginning of the period south to Portage County. Belter found 70 in Marathon County on October 1. Found at the end of the period in Dane and Oconto Counties.

**Audubon's Warbler.**—Reported at Little Suamico Ornithological Station, Oconto County, from October 10 to 19.

**Black-throated Green Warbler.**—Reported at the beginning of the period south to Marathon, Shawano, and Door Counties. Berner found 13 in Portage County on September 20. Last reported by Diehl in Milwaukee County on October 31.

**Blackburnian Warbler.**—Reported at the beginning of the period in Oneida, Portage, Shawano, and Vilas Counties. Peterson found 4 in Shawano County on August 27. Last reported on October 24 in Outagamie County by Anderson and Petznick.

**Pine Warbler.**—Found at the beginning of the period in Ashland, Bayfield, Door, Portage, Vilas, and Washburn Counties. Peterson found 6 in Shawano County on September 13. Last reported by the Lukes in Door County on October 10.

**Palm Warbler.**—Reported at the beginning of the period in Douglas and Vilas Counties. The La Valleys found 60 in Douglas County on October 14. Last reported by Gustafson in Milwaukee County on November 1.

**Bay-breasted Warbler.**—First reported by Tessen in Manitowoc County on August 11. Berner found 11 in Portage County on August 30. Last reported by Hall in Marathon County on October 8.

**Blackpoll Warbler.**—First reported on August 28 in Door County by Stover, in Outagamie County by Tessen, and in Washington County by Domagalski. Regan found 35 in Door County on September 17. Last reported by Bontly in Milwaukee County on November 3.

**Cerulean Warbler.**—Reported from the beginning of the period to August 13 in Washington County by Domagalski.

**Black-and-white Warbler.**—Reported at the beginning of the period south to Portage County. Peterson found 12 in Shawano County on August 3. Last reported by Stover in Door County on November 2.

**American Redstart.**—Found throughout the state at the beginning of the period. Domagalski found 41 in Washington County on September 7. Last reported in Outagamie County by Anderson and Petznick on October 24.

**Prothonotary Warbler.**—Reported by Leshner in La Crosse County on August 6.

**Ovenbird.**—Reported at the beginning of the period south to Milwaukee County. Berner found 6 in Portage County on August 18. Last reported by Anderson and Petznick in Outagamie County on October 21.

**Northern Waterthrush.**—Found at the beginning of the period in Ashland, Bayfield, Door, and Shawano Counties. Hall found 3 in Marathon County on September 12. Last reported by Ashman in Dane County on October 17.

**Louisiana Waterthrush.**—Reported in Manitowoc County by Sontag on August 26 and September 11 and in Winnebago County by Tessen on September 1.

**Connecticut Warbler.**—First reported by Hall in Marathon County on August 28. Last reported by Hall in Marathon County on October 8.

**Mourning Warbler.**—Found at the beginning of the period south to Washington County. Berner found 6 in Portage County on August 7, and Peterson found 6 in Shawano County on August 16. Last reported by Cederstrom in Rock County on October 2.

**Common Yellowthroat.**—Found throughout the state at the beginning of the period. Berner found 37 in Portage County on August 2. Last reported by Gustafson in Milwaukee County on October 30.

**Hooded Warbler.**—Reported by Berner in Portage County on August 30 and September 18.

**Wilson's Warbler.**—First reported by Berner in Portage County on August 22. Peterson found 5 in Shawano County on August 27. Last reported by the Lukes in Door County on September 23.



**Canada Warbler.**—Reported at the beginning of the period in Vilas County by Baughman. Peterson found 3 in Shawano County on August 16, and Berner found 3 in Portage County on September 8. Last reported by Hall in Portage County on October 8.

**Scarlet Tanager.**—Reported at the beginning of the period south to Dane and Washington Counties. Peterson found 7 in Shawano County on August 3, and Berner found 7 in Portage County on September 4. Last reported at Little Suamico Ornithological Station, Oconto County, on October 19.

**Western Tanager.**—A male was found by Heikkinen in Dane County on October 3.

**Northern Cardinal.**—Found throughout the state during the period. Evanson found 13 in Dane County on November 16.

**Rose-breasted Grosbeak.**—Reported throughout the state at the beginning of the period. Berner found 13 in Portage County on August 30. Last reported by Anderson and Petznick in Outagamie County on October 18.

**Indigo Bunting.**—Found throughout the state at the beginning of the period. Peterson found 21 in Shawano County on August 2. Last reported by Gustafson in Milwaukee County on October 18.

**Dickcissel.**—Reported at the beginning of the period in Dane and Dunn Counties. Ashman found 3 in Dane County on August 7. Last reported by Tessen in Columbia County on August 19.

**Eastern Towhee.**—Found throughout the state at the beginning of the period. Ashman found 17 in Dane County on October 10. Last reported by Ashman in Dane County on November 4.

**American Tree Sparrow.**—First reported by Reardon in Florence County on October 3. Belter found over 230 in Marathon County on November 7. Reported at the end of the period north to Burnett, Marathon, Oconto, and Door Counties.

**Chipping Sparrow.**—Found throughout the state at the beginning of the period. Peterson

found over 100 in Shawano County on September 19. Last reported by Cowart in Milwaukee County on November 28.

**Clay-colored Sparrow.**—Reported at the beginning of the period south to Portage and Brown Counties. Berner found 10 in Portage County on August 24. Last reported on October 11 in La Crosse County by Dennis Kuecherer.

**Field Sparrow.**—Reported at the beginning of the period north to Burnett, Washburn, Marathon, and Door Counties. Berner found 22 in Portage County on August 14. Last reported by Ashman in Dane County on November 4.

**Vesper Sparrow.**—Found at the beginning of the period south to Richland and Washington Counties. Berner found 9 in Portage County on August 31. Last reported by Anderson and Petznick in Outagamie County on October 26.

**Lark Sparrow.**—Hewitt found one in Trempealeau County on September 6.

**Savannah Sparrow.**—Found throughout the state at the beginning of the period. Berner found 35 in Portage County on October 4. Last reported by Korducki in Milwaukee County on November 21.

**Grasshopper Sparrow.**—Reported at the beginning of the period in Door, Shawano, and Washburn Counties. Last reported by Gustafson in Milwaukee County on October 18.

**Henslow's Sparrow.**—Found by Uttech in Ozaukee County on August 4 and 9.

**Le Conte's Sparrow.**—Reported by the La Valleys in Douglas County from the beginning of the period to September 2 and in Oneida County by Gustafson on August 12.

**Nelson's Sharp-tailed Sparrow.**—First reported by Gustafson in Milwaukee County on September 6. Wood found 4 in Milwaukee County on September 20. Last reported by Tessen in Manitowoc County on October 6.

**Fox Sparrow.**—First reported by Anderson and Petznick in Outagamie County on September 6. Berner found 20 in Portage County on October 14, and Strelka found 20 in Waukesha

County on October 29. Last reported by the Lukes on November 28 in Door County.

**Song Sparrow.**—Found throughout the state at the beginning of the period. Berner found 60 in Portage County on October 4. Reported at the end of the period north to Brown County.

**Lincoln's Sparrow.**—Reported at the beginning of the period in Ashland, Bayfield, and Vilas Counties. Tessen found 7 in Manitowoc County on October 6. Last reported by Ashman in Dane County on November 4.

**Swamp Sparrow.**—Found throughout the state at the beginning of the period. Berner found 38 in Portage County on October 16. Found at the end of the period in Dane and Manitowoc Counties.

**White-throated Sparrow.**—Reported at the beginning of the period south to Washington County. Ashman found 525 in Dane County on October 10. Reported at the end of the period north to Oconto County.

**White-crowned Sparrow.**—First reported by Korducki in Milwaukee County on September 13. Peterson found 13 in Shawano County on October 15. Found at the end of the period in Manitowoc and Ozaukee Counties.

**Harris' Sparrow.**—First reported by Tessen in Douglas County on September 24. Last reported by Decker in Clark County on October 27.

**Dark-eyed Junco.**—Reported at the beginning of the period in Vilas County by Baughman. Peterson found 415 in Shawano County on October 16. Found at the end of the period throughout the state. The Oregon race was reported from Clark, Oconto, Ozaukee, and Rock Counties.

**Lapland Longspur.**—First reported on September 23 in Douglas County by Putz and Tessen. Hall found over 1,000 in Portage County on October 5. Found at the end of the period in Columbia, Dane, Dodge, and Winnebago Counties.

**Snow Bunting.**—First reported by Tessen in Douglas County on September 24. Hall found

over 500 in Portage County on November 9. Found in scattered areas throughout the state at the end of the period.

**Bobolink.**—Reported at the beginning of the period north to Washburn, Vilas, and Door Counties. Berner found 11 in Portage County on September 2. Last reported by Decker in Clark County on October 12.

**Red-winged Blackbird.**—Found throughout the state at the beginning of the period. Belter found over 4,000 in Marathon County on September 22, and Ziebell found 4,000 in Winnebago County on October 23. Found at the end of the period in Brown, Dane, and Dodge Counties.

**Eastern Meadowlark.**—Reported throughout the state at the beginning of the period. Peterson found 15 in Shawano County on September 23. Last reported by Goff in Barron County on November 21.

**Western Meadowlark.**—Found at the beginning of the period in Dane, Dunn, and Portage Counties. Tessen found 20 in Portage County on September 23. Last reported by Domagalski and Mueller in Grant County on November 8.

**Yellow-headed Blackbird.**—Reported at the beginning of the period in Clark, Dane, Dunn, Walworth, Washburn, and Washington Counties. Gamache found 4 in Dunn County on August 5, and Belter found 4 in Marathon County on August 5. Last reported by Parsons in Walworth County on October 16.

**Rusty Blackbird.**—First reported by Peterson in Shawano County on September 19. Tessen found 500 along Highway 49 in Horicon Marsh on November 8. Last reported by Berner in Portage County on November 11.

**Brewer's Blackbird.**—Reported at the beginning of the period south to Portage County. Domagalski found 400 in Dodge County on November 30, which was the latest report.

**Common Grackle.**—Found throughout the state at the beginning of the period. Belter found over 3,500 in Marathon County on October 25. Found at the end of the period in Brown, Clark, and Dodge Counties.

**Brown-headed Cowbird.**—Reported at the beginning of the period south to Dane and Milwaukee Counties. Hansen found 1,200 in Brown County on October 1. Found at the end of the period in Brown, Clark, and Dodge Counties.

**Baltimore Oriole.**—Reported at the beginning of the period north to Washburn, Vilas, and Door Counties. Ashman found 18 in Dane County on August 20. Last reported by the Smiths in Oconto County on November 23.

**Pine Grosbeak.**—First reported by the La Valleys in Douglas County on October 19. On November 9, 25 were found at Little Suamico Ornithological Station, Oconto County. Found at the end of the period in Door, Douglas, Forest, Vilas, and Washburn Counties.

**Purple Finch.**—Reported at the beginning of the period south to Portage County. At Little Suamico Ornithological Station, Oconto County, 120 were found on October 26. Found at the end of the period in scattered areas throughout the state.

**House Finch.**—Found throughout the state during the period. Ashman found 10 in Dane County on October 24.

**Red Crossbill.**—Reported at the beginning of the period in Ashland, Bayfield, and Vilas Counties. At Little Suamico Ornithological Station, Oconto County, 13 were found on October 26. Found at the end of the period in Ashland, Bayfield, and Douglas Counties.

**White-winged Crossbill.**—Found at the beginning of the period in Ashland, Bayfield, and Vilas Counties. Dennis Kuecherer found 20 in La Crosse County on November 30. Reported at the end of the period in Ashland, Bayfield, La Crosse, Portage, and Washburn Counties.

**Common Redpoll.**—First reported by the La Valleys in Douglas County on October 7. Berner found 240 in Portage County on November 5. Reported at the end of the period south to Waukesha and Milwaukee Counties.

**Hoary Redpoll.**—Reported by Putz in Douglas County on November 5 and 8, and by Tessen in Langlade County on November 12. Four were found by the Smiths in Oconto County on November 16.

**Pine Siskin.**—Reported at the beginning of the period in Ashland, Barron, Bayfield, Burnett, and Oneida Counties. Tessen found 125 in Ozaukee County on October 14. Found throughout the state at the end of the period.

**American Goldfinch.**—Found throughout the state during the period. At Little Suamico Ornithological Station, Oconto County, 650 were found on November 2.

**Evening Grosbeak.**—Reported at the beginning of the period south to Shawano County. At Little Suamico Ornithological Station, Oconto County, 59 were found on October 25. Reported at the end of the period south to Portage County. Several were found in more southern counties during the period.

**House Sparrow.**—Found throughout the state during the period. Ziebell found 450 in Winnebago County on September 20.

## CONTRIBUTORS

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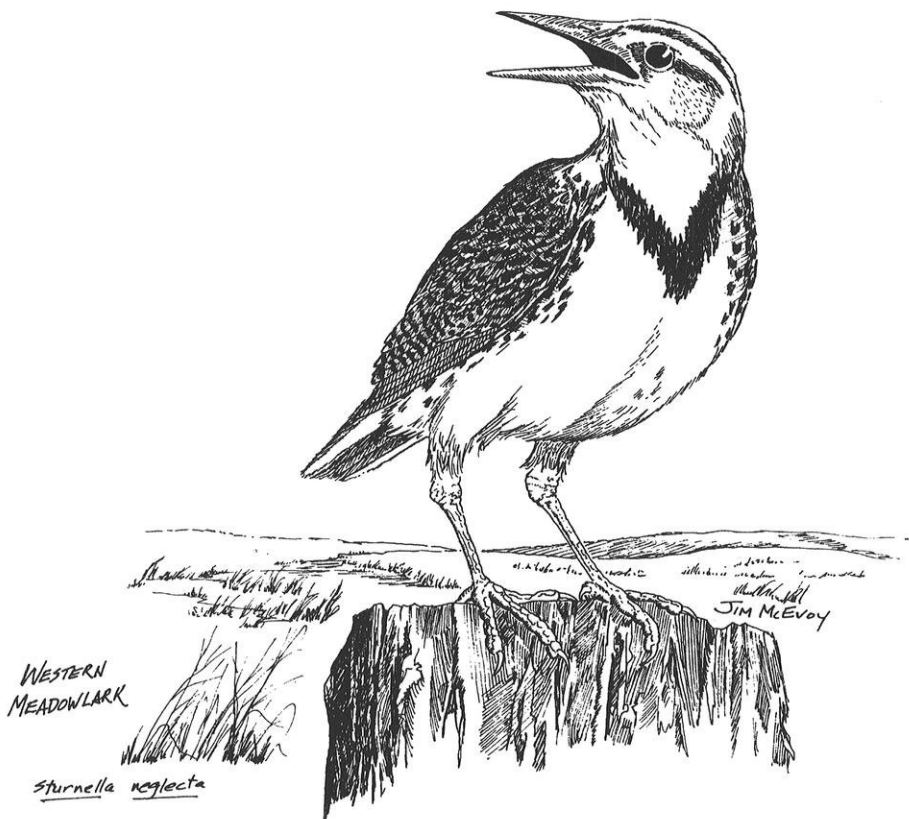
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## 50 Years Ago in *The Passenger Pigeon*

An item in "1947 In Review" by Sam Robbins recalls recent, vivid memories from January 1998 in the Port Washington harbor.

"Ivory Gull: Perhaps the prize bird of the year! On March 8 Carl Richter came upon a bird of this species on the ice fields off the coast from Oconto Harbor. The specimen was collected, and is now in the Milwaukee Public Museum. On the same day, another bird was sighted on the breakwater in Two Rivers harbor, and approached to within thirty feet. As this observation was made in late afternoon, there is no doubt that the two were different birds. Most of the rarities we see in Wisconsin are birds that are not so far from "home" and can be expected to be found again at some later date, but the Ivory Gull in Wisconsin is an "accidental" straggler from the arctic region; it is a "once-in-a-lifetime" experience." (Excerpts from Volume 10, No. 2, 1948)



Western Meadowlark by Jim McEvoy (Wisconsin Department of Natural Resources)

## “By the Wayside”

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*Rare Species documentations include Pacific Loon, Ross' Goose, King Eider, Barrow's Goldeneye, Swallow-tailed Kite, Purple Sandpiper, Parasitic Jaeger, Sabine's Gull, White-winged Dove, and Townsend's Solitaire.*

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### PACIFIC LOON (*Gavia pacifica*)

**17 October 1997, off Wisconsin Point in Douglas County**—As I scanned Lake Superior for different ducks and gulls, I recognized this as a winter-plumaged loon. This individual was a bit different than a Common Loon. Its throat was a clear white and was clearly divided from the back of the neck, which was dark in color. The black on the top of the head extended down to the eye and the cheek was a clear white like the throat. The back of the bird was a dark black. At times, when the sun shone on the back of the head, a gray color was visible. At most times, the back of the head and neck were dark black. This was because the bird was out a couple of hundred yards and the gray only showed when the sun was hitting it right. The bill of the bird seemed thin, but I didn't have any other birds to compare it to. The bill and head were held horizontally. The chin collar wasn't visible due to the distance of the bird.—*Shaun Putz, West Bend, Wisconsin.*

### ROSS' GOOSE (*Chen rossii*)

**10–22 October 1997, on Stricker's Pond in Middleton, Dane County**—One was

seen on Stricker's Pond, Middleton, on October 10, 15, 18, and 22. On the 10th, I was alone. The bird was swimming with over 500 Canada Geese and mallards. Because it was much smaller than the Canadas, I first thought it must be an escaped barnyard duck. The short neck also suggested duck rather than goose. Lacking my telescope, I used 8× binoculars to determine that the rounded head and short bill were gooselike, rather than ducklike. The body was entirely white, except for black wing tips. The bill was pink, but I could not see it well enough to determine presence or absence of a “grinning” patch. I watched for three minutes, with the bird about 100–125 yards distant. Then the bird flew off.

I returned on October 15 with Edgar Spaulding and two 27× telescopes. The bird was closer, 75 yards, and we studied it for 20 minutes. We were convinced that size and shape and stubby bill were right for a Ross' Goose, but the bird tantalized us by keeping its head tucked under its wing the whole time.

Edgar had a splendid look on October 16, and confirmed our suspicions



that no "grinning" patch was visible. I saw the bird again on October 18 and 22. On the 22nd, two White-fronted Geese were also present.—*Sam Robbins, Madison, Wisconsin.*

### KING EIDER (*Somateria spectabilis*)

*October 1997, shot by hunters at the head of the bay (near junction of U.S. Highway 2 and Wisconsin Highway 13) in Bayfield County*—The bird was brought to me by a member of a hunting party who had suspected that the bird was a female King Eider. This was the first King Eider to be shot or seen in Chequamegon Bay, to my knowledge. According to the hunters, the bird was shot as it flew over a blind with several Canvasbacks.

The overall color of the bird was a brownish-gray with fine streaks on the head and neck and with heavier dark irregular bars (somewhat V-shaped) on the breast, belly, and flanks. The bill, legs, and feet were bluish-black. Along with the forehead sloping to meet the bill, an important point used to identify it as a female or juvenile King Eider was that the feathering on the sides of the head did not extend as far as the nostrils. The gape line had an upward slope that was mentioned in several identification guides. The underwing was whitish. The upperwing coverts were brownish with darker centers. Measurements included: weight, 1132.2g (8 days after bird was shot); bill length, 33.0 mm (tip of bill to forehead feathering); wing chord, 254 mm; and body length, 510 mm (tip of bill to tip of tail).—*Dick Verch, Ashland, Wisconsin.*

### BARROW'S GOLDENEYE (*Bucephala islandica*)

*9 November 1997, at Doctor's Park in Milwaukee County*—This bird was seen approximately 100 yards from shore with a spotting scope set to 20×. The lake was calm, and other than a lack of sunlight to distinguish color, viewing conditions were good. A medium-sized flock of scaup, about 35 Common Goldeneyes, several Buffleheads, and a White-winged Scoter were also present. The Barrow's Goldeneye was similar in size to the Common Goldeneyes. Although many of the Common Goldeneyes showed dusky flanks, the black back of the Barrow's extended cleanly down the sides and appeared solid black at the point it met the white of the lower flanks. Seven white dots extended rearward from the shoulder area over the scapulars and on to the back. A wedge of black extended downward and forward from the shoulder area nearly to the waterline where it formed a point. The Barrow's had more extensive black on the rear flank than any of the Common Goldeneyes, and it formed a nearly vertical edge with the white of the flanks.

The forehead of the Barrow's was steeper than that of the Common Goldeneyes and the face had a distinct crescent-shaped, rather than round, white patch between the eye and the bill. Due to the lack of light, the head and throat of all the goldeneyes appeared black, other than the aforementioned white areas. I could occasionally see the yellow color of the Barrow's eye. Although it dove with, and seemed to associate with, the Common Goldeneyes, after about one-half hour most of the flock flew north leaving most of the Common Goldeneyes, but

I could not relocate the Barrow's so I suspect it went with the scaup.—*Thomas C. Wood, Menomonee Falls, Wisconsin.*

**16 November 1997, at Northport near Gills Rock in Door County**—The bird was seen on the north side of the pier, within the breakwall, and close enough that I was able to get quite an excellent view. I stayed about 20 minutes as the bird remained in the same general location and repeatedly dove and surfaced. The bird was quite dark overall with a fully formed large "dirty white" crescent between the eye and the bill, with the upper end of the crescent extending slightly higher on the face than the golden eye. The upper back and sides of the body were dark with prominent white patches of the secondaries showing. The breast was white with gray streaking on the sides. There was no evidence that I could see of the white scapular spots on the back that I later saw in the field guides. The head appeared somewhat darker than the rest of the body and had a very bulging forehead that was noticeably different from the Common Goldeneye. The forehead dropped down steeply to the all dark bill.—*Barbara R. Stover, Mequon, Wisconsin.*

#### SWALLOW-TAILED KITE (*Elanoides forficatus*)

**22 August 1997, in Green Lake County**—At 10:30 in the morning on August 22 1997, I was mowing the lawn when a shadow came across the grass and went directly over me. After being temporarily blinded by looking up, I saw a large bird emerge from the glaring sun, soaring about 75 feet high in lazy circles and moving on a slight

southwest wind. The black trailing edges of the wings, white head and underbelly, and unmistakable long swallow-tails identified this bird immediately as the Swallow-tailed Kite. I ran to the house and called all my children out and we admired the still-circling kite for another minute and a half until it disappeared from view. We had watched these birds a number of times from the observation deck at Florida's Corkscrew Swamp Sanctuary and were surprised to see one here, although my wife, Rebecca, had seen one four or five years ago about 30 miles away.—*Eric G. Ratering, Green Lake, Wisconsin.*

#### PURPLE SANDPIPER (*Calidris maritima*)

**16 November 1997, in Sheboygan Harbor, Sheboygan County**—As I walked out on the northernmost pier in Sheboygan Harbor, approaching the red navigation aid, I heard a shorebird-like call and saw a plump shorebird fly in front of me and pass by, landing about 20 ft to the rear of my position. I observed this bird with my 7 × 35 binoculars in bright sunlight and had an excellent view. The bird was very plump and squat, appearing short-legged. The legs were a bright orangish-yellow and the bill was also yellow near the base for about one-fourth of its length, with the distal three-fourths being dark. The face was gray, as was the breast. Indistinct streaking was present on the flanks and the belly was white. The back was a brownish-gray and the flight feathers were gray, edged with white. I looked for an eye-ring and at times thought I could detect a faint ring, but am unsure of this field mark. As on the previous occasion (November 25 1994) when I saw a Purple Sandpiper at this

location, strollers on the pier interrupted my observation and the bird flew into the marina. I noted a white wing stripe on the dark upper wing. I relocated the sandpiper on the marina breakwall near some hunters who were shooting scaup. Deciding that it was inadvisable to remain near hunters attempting to attract ducks, I immediately left the area.—*Thomas C. Wood, Menomonee Falls, Wisconsin.*

**PARASITIC JAEGER**  
(*Stercorarius parasiticus*)

**18–19 October 1997, off Wisconsin Point in Douglas County**—I was looking for a Pacific Loon that I located the previous day and I happened to notice the jaeger as it flew by. This bird stood out from the gulls that were usually flying by because it flew more falcon-like and was more acrobatic in flight. After it flew past me, it flew over to a group of gulls that were sitting on the water. As it approached the gulls, it dove down to harass them. It harassed the gulls for about a half an hour and then landed on the water close to the gulls. As the bird flew around, I observed a gull-like bird that had black or dark-brown wings. The undersides of each wing had a white patch near the tip. The back and tail were black. The two central tail feathers extended past the rest about an inch or two, and the tips of these two tail feathers were pointed. The belly was mostly white with some barring at the edges. There was a narrow, dark band at the chest. The head had a black cap and the neck was mostly white with a mottled look.—*Shaun Putz, West Bend, Wisconsin.*

**SABINE'S GULL (*Xema sabini*)**

**26 August 1997, at Lake Wausau in Marathon County**—The first thing we thought when we saw the gull coming down the river was that it was a Bonaparte's because we looked just with the naked eye. Then, when it came closer, the white triangles on the wings were easily seen and it wasn't a Bonaparte's. It circled the sandbar with the Ring-billed Gulls, and with binoculars we could see that the head was dark gray, not black. The wings had black triangular patches on the tips and white triangles in the center and were gray towards the body. I then looked through Dan Belter's scope after he had checked all of the marks for himself and saw the yellow tip on the bill. Also, the bird had a notched tail, unlike the Ring-billed and other gulls.—*Lynn Ott, Wausau, Wisconsin.*

**26 August 1997, on the north end of Lake Wausau in Marathon County**—As our group of five birders was watching the 11 American Avocets on the sandbar on Lake Wausau, we saw a small, dark-hooded gull fly over the sandbar. My first thought was that it was an adult Bonaparte's Gull, but after a few seconds of watching it, I noticed something different about its upper-wing pattern. I put my binoculars on the gull and immediately noticed that this was not a Bonaparte's Gull; the wing pattern was not right. The most distinctive field mark on this bird was the upper-wing pattern. The outer primary feathers were black and angled in towards the leading edge of the wing, giving the black triangular look. The inner primary and secondary feathers were white. This white went up and along the gray upper-wing coverts, giving the

inner primary and secondary feathers a triangular pattern as well. The upper-wing coverts and the back of the bird were a dark gray in color. The tail was all white and forked. The underparts were white. This white went up to and around the neck. This bird also had a dark, hooded head. While looking through my scope, I saw a dark bill with a pale tip. From last year's experience with this species in Fond du Lac, Wisconsin, I knew this was the species seen at this moment. Twice this bird almost landed on the sandbar. Why it didn't, I don't know. There were also Ring-billed Gulls on the sandbar. Most of the time, this bird flew out over Lake Wausau and from time to time it was harassed by the Ring-billed Gulls. It did land once far out on the lake for a few minutes.—*Dan Belter, Wausau, Wisconsin.*

#### WHITE-WINGED DOVE (*Zenaida asiatica*)

*29 September 1997, at Concordia University in Mequon, Washington County—*

On the afternoon of September 29, 1997, while enjoying a record Peregrine flight (65), I observed a White-winged Dove flying north along the bluff at Concordia University in Mequon, north of Milwaukee. Some of the afternoon Peregrines were typically moving further inland, so I had walked 50–70 feet away from the bluff to try not to miss these. At one point, I looked back toward the lake in time to see a pigeon or dove flying fast about 30 ft above the bluff edge going north. As it flew past, the feature I observed was a moderate length, squared-off tail, which, from below, showed very clearly the aft one-third or so to be a creamy-buff shade compared to the darker

front two-thirds. My first thought was Ringed Turtle-Dove, an escape, or Col-lared Dove, a species which is expanding its range north from the southeastern U.S. and should be expected in Wisconsin. Fortunately, when it was about 100 ft past me, it made a brief bank to the west, showing a medium gray dove with a very bright, in full sun, angled crescent midway out each wing. The dove then headed north again and was soon out of sight. Because of the size, color, wing crescents, and its known propensity to wander to the northeast post-breeding, I was sure of its identity, except for the fact that every field guide portrayed only the dorsal surface of the tail, which is more "white-cornered" than what I observed. Nate Krakunas of the Milwaukee Public Museum had three specimens of White-winged Dove which he kindly had out to show me a few days later. It was a great feeling to walk into his office and see three skins laid on their backs on a desk, all showing the nice, clear one-third–two-thirds pattern I had observed on the bird at Concordia.

In spite of my shouting to the other hawk watchers, I was the only one to see this bird clearly. I realize that without a photo, specimen, or mass observation, it can't be added to the state list. However, having had so good a look at the bird and knowing that it is a species which regularly appears in northern and eastern states in the fall and winter, I suggest that the WSO accept this "hypothetically."—*Bill Co-wart, Glendale, Wisconsin.*

#### TOWNSEND'S SOLITAIRE (*Myadestes townsendi*)

*22 November 1997, at Devil's Lake State Park in Sauk County—I had walked*

the West Bluff, Tumbling Rocks, Devil's Doorway, and Balanced Rock trails hoping to see a Townsend's Solitaire and was seated on a park bench at the junction of the latter two trails with the East Bluff trail thinking of my next move. I decided to try the East Bluff trail since it had red cedars near this junction. As I turned around, perched on a tree behind me was a Townsend's Solitaire. I identified it immediately because of its nearly all gray slender form with a very distinct white eye-ring and rather short, petite black bill. Buffy patches were on the wing and a small area of white showed at the bend of the wing below the shoulder. Secondaries and tertials were edged in white and the primaries were darker gray than the rest of the plumage. The breast and belly were a smooth, uniform gray and the throat was just a little lighter than the breast. The undertail coverts were light, but were crossed

horizontally with indistinct darker bars. I am aware of the white outer tail feathers of this species, and did see a flash of white when it flew, but due to the angle, and because I was concentrating on the buffy wing patches, I missed this field mark. The bird flew to a buckthorn shrub about 35 feet from the trail and commenced to feed. Unlike the birds present on West Bluff in November of 1994, which were generally approachable, this bird was quite shy and flew back into the woods when a group of hikers walked by. After 15 minutes of no activity on the trail, the bird returned to the buckthorn and I had another minute or two to observe it before more hikers walked by and caused the bird to depart. Due to increased trail activity at this popular trail junction, I decided that additional waiting was futile and left the area.—*Thomas C. Wood, Menomonee Falls, Wisconsin.*

## Errata

In *The Passenger Pigeon* Vol. 59, No. 4, Winter, 1997:

p. 266—caption should read "Fork-tailed Flycatcher"

p. 358—"Black-backed Grosbeak" should read "Black-headed Grosbeak"

In Vol. 60, No. 1, Spring, 1998:

Table of Contents—Sam Robbins photograph was taken in September 1997, not 1977.

# WSO Records Committee Report—Fall 1997

by *Jim Frank*

The WSO Records Committee reviewed 17 records of 12 species for the fall 1997 season. Of these, 14 were accepted, including the first hypothetical record of a White-winged Dove. Additional information allowed acceptance of a spring 1997 record. All contributors of records were notified by postcard in the case of accepted records and by personal letter in the case of records not accepted.

## ACCEPTED

### *Pacific Loon—*

#97-072 *Douglas Co.*, 17 October 1997, Putz.

This “winter-plumaged loon” differed from a Common Loon in that there was a clear linear demarcation between the light front of the neck and dark hind neck. The dark of the head extended down to the eye before giving way to a white cheek. The white that is normally evident above and in front of the eye of a Common Loon was not apparent. The back was black, not mottled. The bill was thinner and held horizontally. The distance from the bird precluded any notation of the

darker line on the side of the neck that contrasts with both the hind and fore neck.

### *Ross' Goose—*

#97-084 *Dane Co.*, 10, 15, 16, 18, 22 October 1997, Robbins.

A very small, white goose was observed in a flock of Canada Geese, Mallards, and White-fronted Geese. Noted were black wing tips; a small rounded head; and a short, pink bill, with no evidence of a “grin patch.”

### *King Eider—*

#97-074 *Ashland Co.*, 27 October 1997, Verch.

A duck was presented for identification after being shot by a hunter. The brownish bird exhibited darker streaks on the head and neck with heavier barring on the breast and flanks. The cheek feathering did not extend as far forward as the nostril opening in the sloping beak. The gape line extended caudally into an upward slope.

### *Barrow's Goldeneye—*

#97-075 *Ozaukee Co.*, 9 November



1997, T. Wood; 16 November 1997, Domagalski.

#97-085 *Door Co.*, 16 November 1997, Stover.

Noted was the extension of black from the back farther down the flanks on the Barrow's Goldeneye compared to the Common Goldeneye. Only white dots were left on the scapulars of this bird, instead of broad white patches. The Door Co. bird lacked the white scapular patches, suggesting a transitional plumage. The black also cut deeply between the white breast and white flanks.

With further observation, the crescent-shaped, white facial spot was noted. Also reported was the shorter, stubbier, black bill of the Barrow's Goldeneye relative to the Common Goldeneyes surrounding it. Finally, the steeper forehead relative to that of the Common Goldeneyes was noted.

(This is the fourth consecutive late fall/early winter report from the Ozaukee Co. location.)

#### *Swallow-tailed Kite—*

#97-076 *Green Lake Co.*, 22 August 1997, Ratering.

A soaring bird was noted to have long, swallow-tails, black trailing edges to the wings, and a white head and breast. (Oddly enough, the last report of this species in Wisconsin came in May 1992, 30 miles from this area.)

#### *Purple Sandpiper—*

#97-077 *Sheboygan Co.*, 16 November 1997, T. Wood.

A plump, short-legged, gray shorebird was noted to have bright orange-yellow feet and a yellow base to an otherwise dark bill. Streaks of gray intruded on a white lower breast and belly.

#97-078 *Kewaunee Co.*, 28 November 1997, Peterson.

The description of this bird was slightly different in that fine, vertical streaks were seen on the throat and upper breast, there was a brownish wash to the head and neck, and the back was brownish with a more scaly pattern to the feathering. All of this hints strongly at a juvenile plumage, not one normally seen in Wisconsin as most of these individuals lose this plumage by the time they migrate.

#### *Parasitic Jaeger—*

#97-079 *Douglas Co.*, 18, 19 October 1997, Putz.

An overall dark brown, gull-like bird was seen in flight. The underside of the wings had a white patch toward the tip. The pointed, central tail feathers extended an inch or two beyond the rest of the tail. The belly was white with a limited amount of barring along the flanks. The upper breast exhibited a dark band across it. The neck was whitish, the cap dark. The back and wings were dark brown.

#### *Sabine's Gull—*

#97-080 *Marathon Co.*, 26 August 1997, Belter, Ott.

Noted in flight, this Bonaparte's Gull-sized bird showed a strikingly different upperwing pattern. The outer primaries formed a black triangle; medial to that the inner primaries and outer secondaries formed a white triangle, and still medial to that was a dark gray triangle formed by the upperwing coverts. The mantle was dark gray, the slightly notched tail was white, the underparts were white, and the head dark gray. The dark bill had a yellow tip. (As birders may recall, this is the second consecutive fall record for this species in Wisconsin.)

*White-winged Dove—*

#97-081 *Ozaukee Co.*, 29 September 1997, Cowart.

Observed flying north at the Concordia hawk watch, this pigeon/dove was noted to have a squared-off tail. From the underside, the distal one-third of the tail was creamy-buff. The white corners to the upperside of the tail were not evident at the angle of observation, but subsequent examination of skins showed the uniform light coloration across the distal one-third of the underside of the tail seen in this bird. Also noted as the bird banked was the overall grayish color with prominent white crescents on the upperside of the middle of each wing.

This is the first Wisconsin record for this species, adding it to the state hypothetical list.

*Townsend's Solitaire—*

#97-083 *Sauk Co.*, 22 November 1997, T. Wood.

A slender gray bird was seen perched at close range. The white eye-ring, small black bill, and buffy wing patches were also noted.

**NOT ACCEPTED***Pacific Loon—*

#97-072 *Douglas Co.*, 24 October 1997.

The description of this loon was limited to it being small, having a white cheek line below the eye, and lacking white spotting on the back. There was not a description of the bill size, shape, or posture, or of the sharp delineation of the dark hind neck and white fore neck. In addition, the lack of white above and in front of the eye was not specifically noted. Though some characteristics suggest this was likely a Pacific Loon, a more complete description is needed, especially given the gray, windy viewing conditions.

*Eurasian Wigeon—*

#97-073 *Milwaukee Co.*, 23 September 1997.

Photographs were submitted of a wigeon that exhibited a blonde forehead, gray face, a hint of green appearing around the eye, and brown flanks. Though the apparent lack of green in the face and the blondish forehead were different than an adjacent American Wigeon, these photos indicate the bird to be a male American Wigeon in late eclipse/early breeding plumage. The bird did not show evidence of any orange on the head, nor the gray flanks expected of a Eurasian Wigeon.

*Barn Owl—*

#97-082 *Vilas Co.*, 30 August 1997.

This brief description strongly suggests a Barn Owl. A "hiss-like" call, "light undersides," a build not as chunky as a Barred Owl, and longer legs were mentioned. The bird was seen at the edge of floodlights so complete plumage description was not possible. More precise color description and eye color would have helped confirm this very probable record at a very northerly location in the state.

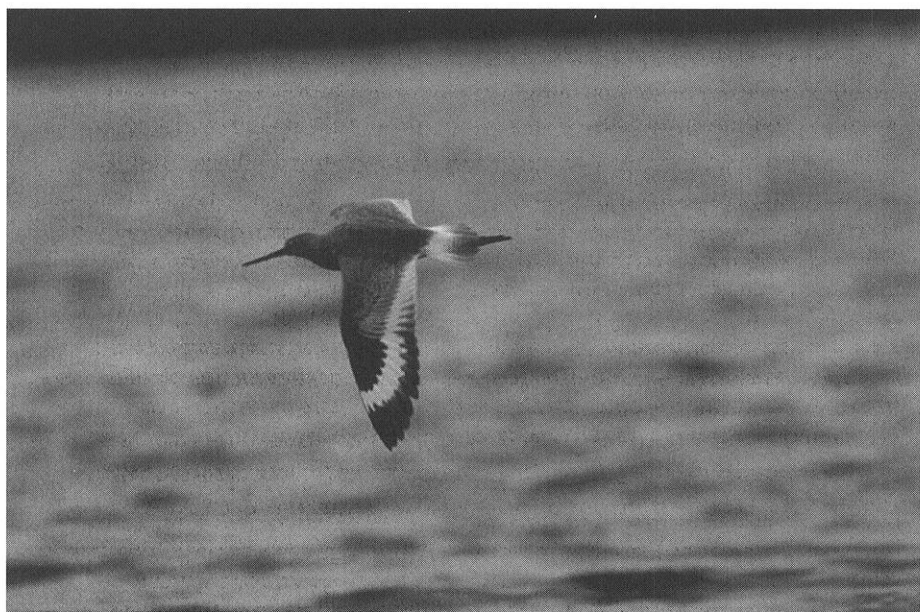
**ACCEPTED (SPRING 1997)***Great Gray Owl—*

#97-058 *Bayfield Co.*, 20 May 1997, P. Johnson.

This large, gray-brown owl was described as lacking ear tufts, having gray facial disks, and yellow eyes. A distant photo of the bird flying away from the camera was previously submitted without written information.

Jim Frank

Chair, WSO Records Committee



*Willet by Jack Bartholmai*

## ABOUT THE AUTHORS AND ARTISTS

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**James S. Anderson** has directed the operation of Mosquito Hill Nature Center in New London for nearly two and one half decades. Birds and habitat preservation play essential roles in his environmental teachings. When away from his 430-acre office and "The Hill," Jim enjoys birding, hiking, nature photography, canoeing and other outdoor endeavors.

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**Jack R. Bartholmai** is an amateur wildlife photographer and wood sculptor. His current focus is photographing the birds of Dodge County, his stomping grounds since 1972. His photos appear frequently in local newspapers, travel brochures, calendars, and maps.

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

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
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