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The Passenger Pigeon

Summer 1977

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*Cover — Photo of White Pelicans taken by Mrs. Gertrude Lint
at Onalaska Wisconsin in the Fall 1976*

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The Breeding Bird Survey In Wisconsin 1966-1975

By Sam Robbins

The Breeding Bird Survey was developed in the early 1960's by personnel from the U.S. Migratory Bird and Habitat Research Laboratory in Maryland. Ornithologists and other conservationists had long felt the need of some method by which summer bird populations could be measured with precision sufficient to detect significant increases and decreases that might be occurring with different species in different parts of North America. To some extent the Christmas Bird Count had been supplying data concerning winter populations for many years, but there was no comparable tool for summer.

After a trial run in Maryland and Delaware in 1965, the project expanded in 1966 to cover all states east of the Mississippi River, and in the following two years was extended to the Pacific. The plan called for setting up 2,000 or more road transects, each 24.5 miles long, with three-minute look-and-listen stops at intervals of 0.5 mile--a total of fifty stops per transect. Each state and province was divided into "Degree-blocks" (one degree latitude, one degree longitude), and assigned from one to eight transects per degree-block, depending on the number of cooperators who could be recruited in each area. The routes were first selected by a random method, and as nearly as possible, these routes have been covered in exactly the same manner by the same observers in succeeding years. Further standardization is achieved by having the observers start thirty minutes before sunrise, and end approximately four hours later, capitalizing on the main morning song period.

Wisconsin Coverage

Wisconsin began its participation in 1966, attempting four transects per degree-block: a total of 70 routes. It was difficult to find observers to man all the northernmost transects at first, but the coverage now is nearly complete. It will be seen in Table 1 that 59 of the 70 routes have now at least an eight-year history, 28 of these having been completed every year. Every route has been traversed at least three times. Overall the state has an 87% completion record through the first ten years.

The resulting data are available in different forms. Each year the Migratory Bird and Habitat Research Laboratory furnished a printout for each transect, listing the number of individuals for each species, and the number of stops at which each species was recorded. From these printouts separate ten-year summary sheets have been created for each of the state's 70 transects. Not only are the results for each year visible at a glance, but also there is a per-year average for the number of individuals for each species seen or heard on each transect.

The Migratory Bird and Habitat Research Laboratory has also furnished a second printout each year, listing all species recorded on Wisconsin transects, listing the routes on which each species was recorded, and show-

ing the average number of individuals per transect for each species for that year. These averages have now been incorporated into Table 2. The "number of individuals per route year" is obtained by totaling all individuals seen on all transects in a given year, and dividing by the number of transects completed that year. (Example: 508 Field Sparrows in 1967, divided by 62 transects, equals 8.2.) By averaging the figures for each of the ten years, an "average number per route per year" is calculated. Table 2 also lists the "total number of routes" (Maximum equals 605) on which each species was seen or heard.

When the first five years of this project were summarized (Robbins, 1971), attention was drawn to three types of information that could be gleaned: (1) the relative abundance of different species, leading to a more precise use of such terms as "abundant", "common", "fairly common", "uncommon" and "rare"; (2) range limits for those species that are not statewide in summer distribution; and (3) indications that certain species may be increasing or decreasing. Now with ten years of data available, additional analyses are possible.

Range Maps

Heretofore in describing the range of a given species in the state in summer, writers would designate "common summer resident" or "common summer resident north, uncommon south". By means of BBS data it is now possible to refine this process considerably, by dividing the state into various regions, and determining the average number of birds per transect per year seen in each geographical division.

An eight-region geographical division has been created by using some insights from Lawrence Martin's *The Physical Geography of Wisconsin* and J.T. Curtis' *The Vegetation of Wisconsin*. Martin proposed a division into five geographical provinces: (1) small "Lake Superior lowland" in the far northwest; (2) an extensive "northern highland" encompassing most of the northern forest; (3) a V-shaped "central plain" anchored by points in Polk, Columbia and Marinette counties; (4) a "western upland" stretching from St. Croix to Rock counties; and (5) the "eastern ridges and lowlands" extending from Madison and Beloit northeastward to southern Marinette and Door counties. The basis of this division is the texture and structure of the underlying rocks, which in turn affect the soil, the vegetation that grows in the soil, and the birds that feed on the vegetation.

Upon this five-fold division the Curtis "tension zone" has been superimposed. In western Wisconsin the tension zone virtually duplicates the western portion of Martin's "Central plain", so the tension zone lines are being used. In eastern Wisconsin the tension zone cuts across the middle of Martin's "eastern ridges and lowlands", creating three geographical regions out of Martin's one. In central Wisconsin the northern boundary of Martin's "central plain" has been replaced by the nearly identical northern boundary of the tension zone, and the area south of the southern boundary of the tension--within Martin's "central plain" -- becomes a separate area.

Figure 1 shows the resulting eight geographical divisions: (1) Lake Superior lowland, (2) northern highland, (3) Lake Michigan lowland, (4) tension zone west and central, (5) tension zone east, (6) central sand area,

(7) western upland, and (8) southeastern cropland. The transects that fall within each region are also shown. It is unfortunate that the number of transects per district is not more evenly divided. Possibly some additional transects can be created in the future to strengthen areas 3, 5 and 6.

Space does not permit a detailed analysis of the distribution pattern for many species. But some representative samples are included in Figures 2, 3, 4 and 5. The forthcoming book of Wisconsin birds will contain BBS data for most species, showing how the population density for a given species varies from one region to another.

In Table 3 variations in swallow populations are shown. The term "common" is used both in Gromme's *Birds of Wisconsin* (1963) and Barger, Lound and Robbins' *Wisconsin Birds--Checklist With Migration Charts* (1960, 1975) for all but the Rough-winged ("fairly common") and the Tree ("abundant" in Gromme). BBS results support clearly a less-than-common designation for the Rough-winged. The other five species show striking differences within the broad term "common": the even distribution of the Barn, the northern preponderance of the Cliff, the southern concentration of the Bank, the eastern dominance of the Purple Martin.

It is something of an extra bonus that BBS results have furnished information that refines our understanding of the range of certain species. The transects were laid out at random, rather than with any deliberate effort to sample the "hot spots" where birds on the fringe of their range are most likely to congregate. But because the project has gotten observers out in the field more, sampling areas that had not previously been explored, significant discoveries have been made. It was the discovery of LeConte's Sparrows on several transects that led to broader searching and the resultant awareness that this species was far more widespread in northern Wisconsin than had been previously suspected. Similarly BBS observations have been a stimulus leading to greater knowledge of the range and abundance of the Ruby-crowned Kinglet, Cape May and Connecticut Warblers, Willow and Alder Flycatchers, and Red-breasted Nuthatch. Additional comments about this will follow in the family-by-family account of this summary.

Increases and Decreases

Further study of Table 2 offers a clue to those species that have increased or decreased between 1966 and 1975. The writer first eye-balled the per-transect averages for each year for each species. If the averages for 1966, 1967 and 1968 were consistently lower than those for 1973, 1974 and 1975, a notation of probable increase was made. Similar notations of probable decreases were made. This list was then sent to the Migratory Bird and Habitat Research Laboratory for statistical analysis. Laboratory personnel kindly made the analysis, confirming most of the suspicions, and checked a number of other species as well.

Some of these computations have been incorporated in the "mean annual percent change" column in Table 2. In some instances the comparisons were made over a ten-year span; in others the nine-year 1966-74 interval was used. All changes listed in Table 2 are computed as significant at the 95% probability level or higher. In many instances these changes also correlate with measured changes in the entire region east of the Mississippi River.

For a few species these figures are nevertheless suspect. In 1966 only 18 of a possible 30 transects in northern Wisconsin (regions 1 and 2) were run,

whereas in the following year 25 were completed. With 1966 being used as a base year for nine or ten-year comparisons, the starting figure was unnaturally low for such northern species as Broad-winged Hawk, Yellow-bellied Sapsucker, Northern Raven, Red-breasted Nuthatch, White-throated Sparrow, and Yellow-rumped, Chestnut-sided and Pine Warblers. However, in the more sophisticated analysis conducted at the Migratory Bird Habitat and Research Lab, only those routes covered in successive years are used and corrections are made for differences in density of coverage.

Family-by-Family Comments

Loons and Grebes: No significant changes. Loons were recorded as far south as Polk, Rusk, Taylor, Lincoln, Langlade, Oconto and Door, plus one in Marathon in 1975. Horned Grebes were located in Marinette (6/14/72, H. Lindberg) and Polk (6/15/74, C. Faanes).

Cormorants and Herons: Double-crested Cormorants were found in Winnebago (6/6/70, D. Tessen) and Marathon (6/24/73, N. Stevenson). One Cattle Egret was listed in Dodge (6/4/72, J. Fuller).

Swans and Geese: The lone Whistling Swan was a Winnebago bird (6/4/66, D. Tessen). Canada Geese, limited at first to Burnett, has in the past five years been found in Polk, St. Croix, Chippewa, Marathon, Juneau, Marquette, Winnebago and Oconto.

Ducks: No significant change is apparent for the Mallard, Blue-winged Teal and Wood Duck, the only three species appearing on BBS records for each of the ten years. Nine of the eleven Ring-necked Duck observations were from northwestern counties (Burnett, Polk, Washburn), the other two in Marathon. Hooded Mergansers were also concentrated with 14 observations in the northwest (north of Pierce, west of Price), plus one in Forest. The smattering of other waterfowl observations were too fragmentary to carry significance.

Hawks: The Red-tailed, Northern Harrier and American Kestrel were state-wide in distribution, and showed no noticeable fluctuation. Broad-wings were recorded every year, all in the northern half of the state. Cooper's, Red-shoulders and Ospreys were found somewhere nearly every year, but the numbers (two to five individuals per species) were too small to draw conclusions. Goshawks went unreported until after the winter invasion of 1972-73, after which two individuals were counted in 1973, one in 1974 and three in 1975. Most unusual were a Swainson's Hawk in Buffalo (6/14/74, K. Krumm) and a Merlin in Price (7/6/74, A. Vincent).

Grouse, Pheasants: Because Ruffed Grouse are relatively quiet during June, the figures are too fragmentary to hold meaning. Pheasant numbers have shown little variation. Bobwhites dropped to a low point in 1971, but have come back strongly since then. In the early BBS years, the northern limit had been St. Croix, Chippewa, Clark, Marquette, Dodge and Ozaukee. In 1975 individuals were recorded in Polk, Wood, Waushara and Green Lake, with larger-than-usual tallies at various southwestern points. Gray Partridge sightings have been sporadic in the southeast north to Waupaca, Outagamie and Door. The westernmost record was in Lafayette (6/23/74, T. Ellis). The lone Turkey record was in Juneau in 1967; the sole Prairie Chicken was located in Marathon in 1975; the only Sharp-tailed Grouse were found in Sawyer, Taylor and Clark.

Cranes, Rails: While not at all numerous, Sandhill Cranes have been widespread: Burnett in the northwest, Oconto and Marinette in the northeast, and in ten central counties. Virginia Rails, with far less carrying power in their vocalizations, were noted on only eight transects. The only King Rail was heard in Jackson (6/4/71, S. Robbins).

Plovers, Sandpipers: Killdeer were found on every route except one in Marinette, but birds in the southeast are two to three times as numerous as those in other regions. The 700 individuals tallied in 1975 were well above those of any previous year. The concentration of Upland Sandpipers is even more striking. In the Lake Michigan lowlands this species averages 13 individuals per transect per year, more than double the total for all other regions combined (Figure 2). Woodcock and Common Snipe were widely reported, but in far smaller numbers than would have been expected in May when birds are noisier. A Solitary Sandpiper in Juneau (7/2/66, S. Robbins) and a Lesser Yellowlegs in Door (6/30/68, L. Erickson) were presumably early fall migrants.

Gulls, Terns: Virtually all Herring and Ring-billed Gulls and Common and Caspian Terns were Washington Island birds. Other transects do not touch good gull and tern habitat. Forster's Terns have been found in Winnebago (6/3/72 and 6/15/73, D. Tessen), Door (6/27/74, L. Erickson) and Dodge (6/18/75, D. Gustafson). Black Terns have declined steadily from 1968 to 1975, with the exception of 1973 and 1974 when they barely held their own. In 1975 ten transects produced but 29 individuals; in 1968 ten transects tallied 101.

Doves, Cuckoos, Owls: Mourning Doves have experienced a modest increase. Numbers of Yellow-billed Cuckoos in 1971-75 were double those of 1966-70. Black-bills were slightly up in the same period. A Long-eared Owl was detected in Dodge (6/4/72, J. Fuller), Short-eared Owls were discovered in Forest (6/28/68, M. Donald) and Dane (6/16/71, E. Werner), and a Saw-whet was heard in Price (6/6/71, A. Vincent).

Woodpeckers: Flickers showed a fairly even distribution pattern statewide, but experienced a decline from 1967 and 1968 (8.6 and 9.2 birds per transect) to 1974 and 1975 (5.1 and 5.4 birds per transect). Other woodpeckers showed little year-to-year fluctuation. Pileateds have been found south to Grant, Sauk, Waushara, and Manitowoc. Red bellies were noted north to Polk, Sawyer, Marathon, Waupaca and Outagamie. Sapsuckers were recorded south to Vernon, Juneau, Waupaca and Manitowoc.

Flycatchers: Population have remained relatively constant. Only the Eastern Pewee appears to have experienced a modest decline. This species, the Eastern Kingbird, Northern Crested and Eastern Phoebe have shown an even distribution in all parts of the state except the southeast, where numbers are somewhat lower. Only in 1974 and 1975 were observers asked to differentiate between the Willow (fitz-bee) and Alder (wee-bee-o). But birds listed as "Traills" between 1966 and 1973 have been divided into Willow and Alder on the basis of 1974 and 1975 reports. The Willow was noted in the southern counties north to Polk, Taylor, Jackson, Waupaca, Oconto and Door, with a far-north bird in Bayfield (6/24/74, J. Kaspar). The Alder was concentrated in northern Wisconsin south to Barron, Chippewa, Jackson, Juneau, Outagamie and Manitowoc.

Swallows: While all six species are present in all parts of the state, distributional patterns are different. Purple Martins have a heavy concentration along Lake Michigan; Cliffs are far and away most numerous in the north—so much so that their state-wide totals exceed those of the Tree, Bank, Rough-winged and Martin combined. Trees are strongest in the north, Banks in the south, with Barns rather evenly distributed.

Jays through Creepers: What few Gray Jays and Boreal Chickadees have been noted have been restricted to the northcentral and northeastern regions. Blue Jays, showing considerable ups and downs on the Christmas Bird Count, are remarkably constant in summer. Ravens have been found south to Polk, Taylor, Jackson, Lincoln, Oconto and Door. Tufted Titmice maintain only low populations, even in the southwest where reports come most regularly; yet it has wandered to Burnett (6/14/71, H. Caldwell) and Langlade (6/6/73, C. Rudy). The southern limit for Red-breasted Nuthatches varies from year to year, but has included records south to Polk, Taylor, Jackson, Juneau, Langlade and Door. Brown Creepers seem scarce and limited to the two northern counties, with the exception of one Juneau record (6/21/75, S. Robbins).

Wrens, Mimics, Thrushes: House Wrens, well-represented and stable throughout the state, are especially numerous in the southwest. Winter Wrens, while regular on only a few northern routes, have wandered occasionally south to Pierce, Clark and Waupaca. Pierce also produced the lone Bewick's Wren observation (6/13/66, S. Robbins), and a Carolina Wren (6/24/74, C. Faanes). The only other Carolina was a Kenosha bird (6/29/66, L. Erickson). The BBS has turned up but two Mockingbirds: Lafayette (6/24/72, T. Ellis) and Manitowoc (6/18/73, B. Brouchoud). Catbirds and Brown Thrashers have shown little year-to-year fluctuation, and seem decidedly more numerous in the west than in the Lake Michigan counties. Robins showed a steady increase from 1966 through 1972, with a slight decline in the ensuing three years. Numbers of Woods, Hermits and Veeries have shown little change. Bluebird populations are small and getting smaller, with an average of but two or three individuals per transect per year in any region.

Gnatcatchers, Kinglets, Waxwings: None of the transects produced Gnatcatchers with any consistency. The ten years produced but six sightings in Richland, Monroe, Pierce, Chippewa and Oconto. Golden-crowned Kinglets were found regularly in Ashland, Lincoln and Oneida, and occasionally in Bayfield, Taylor, Vilas, Ashland, Forest and Florence. Ruby-crowned Kinglets, until recently considered rare summer residents, were found in all the northernmost counties south to Oneida and Door. Although present throughout the state, Cedar Waxwings were far more numerous from the tension zone northward.

Shrikes, Starlings, Vireos: Only in Sauk could the Loggerhead Shrike be found with any regularity; other records were from Lafayette (1967), Polk (1968, 1969), Columbia (1969) and Ozaukee (1972). Starlings average close to 125 individuals per transect per year in the southeast, 45 in the northwest. Of the three Vireos that are virtually statewide in distribution, the Red-eye is strongly concentrated in the north, the Warbling is most numerous in the west, while the Yellow-throated is not numerous anywhere and is rarely noted in the east. The Solitary was regularly present in the northernmost tier of counties, occasionally found south to Polk, Waupaca and Oconto. The Bell's was not recorded regularly at any point, but was detected once or twice in Trempealeau, LaCrosse, Jackson and Lafayette.

Warblers (statewide): Of 28 species of warblers that might be found in Wisconsin every summer, only four have a statewide distribution. The Yellow and Yellowthroat have maintained steady numbers, somewhat more numerous in the northwest than the southeast. The Ovenbird and Redstart barely merit statewide status, there being so little favored woodland habitat in the southeast. North of the tension zone the Redstart averages four individuals per transect per year, while the Ovenbird—averaging 25— is one of the most abundant warblers in the northwoods.

Warblers (south): Of seven species that are primarily southern birds, the Prothonotary and Kentucky went unrecorded during the 1966-75 span. The Worm-eating was found once: Lafayette (6/28/69, T. Ellis). Two instances of singing Louisiana Waterthrushes were mentioned in Jackson (6/2/67 and 6/13/72, S. Robbins). On three occasions Yellow-breasted Chats were located: Green (6/28/69, N. Barger), Grant (6/5/71, S. Robbins) and Monroe (6/18/75, S. Robbins). Ceruleans were reported from nine widespread areas, but nowhere with any numbers or regularity. Northernmost were birds in Polk (6/15/68, S. Robbins), Bayfield (6/27/72, S. Robbins), and Oconto (6/13/70 and 6/7/75, D. Tessen). The one southern species that turned up with regularity was the Blue-winged, found north to St. Croix, Jackson, Green Lake and Fond du Lac.

Warblers (central): Another eight species have their strongest concentrations in the north, but are present in small numbers at a few central locations. The Black-and-White was occasionally noted south to Juneau, Sauk, Waushara and Green Lake. The Golden-winged put in an occasional appearance in Crawford, Dane, Sauk and Fond du Lac. The Nashville was regularly found in the jack pines in Jackson and Juneau, and occasionally in Marquette. North of the tension zone the Chestnut-sided averaged 11 birds per transect per year; south of this zone there were sporadic sightings in St. Croix, Vernon, Sauk and Fond du Lac. Pines were regular in small numbers. Small numbers of Pines were regularly found in Jackson and Juneau, as well as on most of the northern routes. In an average year only twelve Northern Waterthrushes were recorded on all transects combined; but what few there were could be located south to Clark, Waupaca, Winnebago and Kewaunee. Mournings were recorded on single occasions in the west in LaCrosse, Monroe and Juneau, but these were probably late migrants; regular listings in the east placed them as far south as Winnebago and Ozaukee as probable breeders. In a few instances Canadas were noted south to Polk and Jackson.

Warblers (north): Restricted almost entirely to the northern forests were nine species: Parula, Magnolia, Cape May, Black-throated Blue, Yellow-rumped, Black-throated Green, Blackburnian, Palm and Connecticut. The BBS deserves considerable credit for helping prove that the Cape May is not as rare as a summer resident as had been supposed ten years ago, with records from Douglas, Bayfield, Ashland, Oneida, Florence and Forest. Similar revisions in thought about the summer range of the Connecticut have been abetted by BBS findings in Burnett, Douglas, Bayfield, Ashland, Oneida, Florence and Oconto. Two Juneau birds (6/16/70 and 6/4/71, S. Robbins) are considered late migrants. It is hard to categorize an Ozaukee Blackburnian (6/26/72, M. Donald) as anything but a very late migrant, in spite of the late date, considering that all other representatives of this species were from the north. The Yellow-rumped will bear watching. A Juneau bird (6/11/73, S. Robbins) and two in Chippewa (6/8/69 and 6/24/73, C. Kemper) raise the interesting prospect that breeding in some central Wisconsin pine regions is not impossible.

Warblers (migrant): It is to be expected that when BBS routes are run in June, an occasional late spring migrant will be found. In addition to the suspected migrants listed above, there have been Bay-breasted in Jackson (6/2/67, S. Robbins) and Douglas 6/3/69, R. Bernard) a Blackpoll in Forest (6/8/66, F. Leshner) and Wilson's in Douglas (6/3/69, R. Bernard) and Waupaca (6/25/72, J. Kaspar).

Warblers (general): No significant increases or decreases are evident among the warblers. In many cases the samples are too small to rely upon for significant trends. While the statistical summary from BBS headquarters suggest a probable increase in the Yellow-rump, Chestnut-sided and Pine, it must be remembered that some of the best warbler-producing transects were not run in 1966 when the project was just getting under way.

Blackbirds: There has been a decided increase in the Redwinged Blackbird and Common Grackle. The Redwing, averaging 122 individuals per transect per year in 1966, climbed to 176 in 1973; even with a slight decline to 167 in 1975, this represented an average gain of 5% per year. Similarly the Grackle rose from 38 birds per transect per year to a peak of 66 in 1973 before leveling off to 52 in 1975, representing an average gain of 7% per year over the ten-year period, slight increases appear probable for the Yellow-headed and the Northern Oriole, while numbers of Western Meadowlarks may be ever so slightly down. Bobolinks, Eastern Meadowlarks, Brewer's and Brown-headed Cowbirds have held steady. Distribution figures

showed heavy concentrations in the southeast for Redwings and Grackles, a modest preference for the east for the Bobolink, and for the west for the Northern Oriole. Western Meadowlarks were few and far between in the north, while Brewer's were almost non-existent in the south. Orchard Orioles were limited to one or two per year, all in counties adjoining the Mississippi and St. Croix Rivers except singles in Portage (6/11/74, M. Baumgartner) and Walworth (6/19/66, J. Zimmerman).

Tanagers, Buntings; Scarlet Tanagers proved decidedly scarce in the southeast, but held a normal pattern in the north. Figure 5 illustrates the strong concentration of Northern Cardinals in the southwest, and the paucity of individuals that have penetrated the tension zone; sporadic observations were made as far north as Burnett, Washburn, Rusk, Marathon, Langlade and Marinette. Perhaps the overall increase from 4 individuals per transect per year in 1966 to 5 in 1975 is leading to a build-up that will provide a further northward push in time to come. After averaging 6 or 7 birds per transect per year in 1966, 1967 and 1968, the Rose-breasted Grosbeak jumped to 11 in 1973, 1974 and 1975, a highly significant average annual increase of 7% for the ten-year interval. Most of these grosbeaks are in the north and west. Indigo Buntings displayed a more even distribution across the state, and a modest per-transect gain from under 10 (1966) to nearly 13 (1975). Dickcissels experienced the most drastic change of any species: plummeting from the 1967 high of 16 birds per transect to a low of under 3 just three years later; and even with this species holding its own since then, the decrease averaged out to a -19% mean annual drop. Dickcissels continue to be numerous in the far southwest, and regular in small numbers north to Polk, Rusk, Marathon, Waupaca and Door.

Finches: Evening Grosbeaks have appeared frequently on routes in Douglas, Bayfield, Vilas, Iron, Forest and Florence. Pine Siskins went almost unrecorded through 1968, but have been regular in small numbers since in Bayfield, Oneida and Forest; occasional records also came from Douglas, Bayfield, Burnett, Washburn, Sawyer, Lincoln, Vilas, Iron and Florence. The erratic Red Crossbill, found four different years in Bayfield, had only one or two appearances in other northern locations. In 1974 birds were encountered farther south in Chippewa, Jackson and Juneau. The only White-winged Crossbill observations were birds flying overhead in Douglas (6/11/69, S. Robbins) and Juneau (6/8/74, S. Robbins). While the American Goldfinch population fluctuates widely in winter, it is evenly distributed in summer. A modest decline since 1971 is suspected. Rufous-sided Towhees have maintained a constant level, with birds concentrated most of all in the west central counties.

Sparrows, (statewide): Of the six species that inhabit all parts of the state, only the Chipping and Song showed any increase: the Chipping from 7 birds per transect in 1966 to 10 in 1975 (3% mean annual increase) and the Song from 28 in 1966 to 31 in 1975 (+2%). The Savannah and Swamp held their own. There were noticeable decreases in the Grasshopper, Vesper and Field. The Grasshopper and Field scarcely qualify as birds with statewide distribution, since numbers in the northernmost tier of counties were very small. In 1967 observers counted 219 Grasshoppers on 25 transects; in 1975 this species was again tallied on 25 routes, but with only 106 individuals. It has been a steady decline in the intervening years. The drop in Fields has been equally steady, but not as severe: over 8 individuals per transect in 1966 and 1967 to just over 5 in 1974 and 1975. The Vesper, which shows its greatest abundance in the central sand area, also experienced an average mean loss of 5% per year: 12 birds per transect in 1966, 7 in 1975.

Sparrows (south): Henslow's were found regularly north to Polk, Rusk, Lincoln, Langlade and Oconto. There were single records in Washburn, Sawyer and Price. Only at a Marquette location could lark sparrows be found regularly, with once-in-a-while sightings in Jackson and Menomonie.

Sparrows (north): The LeConte's was present every year on the Exeland transect close to the Sawyer-Rusk county line. Irregularly individuals were detected in the northern counties of Douglas, Polk, Washburn, Lincoln and Oneida, and farther south in Jackson and Clark. Small numbers of Northern Juncos were discovered in Douglas, Bayfield, Ashland, Vilas, Iron and Oneida, with a surprising individual present once in Juneau (6/21/75). While most Clay-colors were found regularly south only to Trempealeau, Juneau, Waushara and Outagamie, they were also found regularly in one Sauk location, and once or twice in Crawford, Vernon and Dodge. A few White-throats have been located south to Jackson, Portage, Waupaca and Manitowoc. Lincoln's have been noted regularly in Oneida, and rarely in Douglas, Taylor, Vilas, Iron and Forest.

Summary

Through the first ten years of Wisconsin's part in the North American Breeding Bird Survey, the combined efforts of over 80 observers has resulted in the successful completion of 605 transects of a possible 700 (70 per year). Each route has been covered at least three times, and 59 of the 70 have been run eight or more times.

For each of the 70 areas there exists a summary sheet showing all birds recorded each year, 1966 through 1975, and giving the average number of individuals per year for each species recorded on that route. The year-by-year totals for all transects have also been averaged, showing the relative abundance of each species, and showing the ups and downs each species has experienced during the ten-year span. Birds showing a significant increase include the Green Heron, American Kestrel, Killdeer, Crested Flycatcher, Tree Swallow, American Robin, Redwinged Blackbird, Common Grackle, Northern Cardinal, Rose-breasted Grosbeak, and Indigo Bunting. Decreases were noted for the Black Tern, Common Flicker, Eastern Bluebird, Dickcissel, Grasshopper Sparrow, Vesper Sparrow and Field Sparrow.

The amount of data accumulated in the past ten years is far too great to be contained in this summary. The BBS project leaders at the Migratory Bird and Habitat Research Laboratory are working on a ten-year summary which will be circulated among all BBS cooperators. If researchers wish to borrow printouts and summary sheets for Wisconsin data, the writer will gladly fill requests as much as possible.

Sincere thanks are offered to all who have participated in one or more of the BBS transects in Wisconsin, and to the personnel of the Migratory Bird and Habitat Research Laboratory for their splendid cooperation.

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Cadott, Wisconsin

Table 1-1

Table 1-1

Rte. No.	Nearest Town	Counties	Observers	Total Species/Individuals Recorded Each Year											Composite Species	
				1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	Ave.	Total	
1	Chaffey	Douglas	Bernard Staue	<u>53</u> 374	<u>65</u> 828	<u>64</u> 746	<u>64</u> 539	<u>66</u> 572	<u>49</u> 448	<u>54</u> 506	<u>45</u> 457		<u>61</u> 660	<u>58</u> 570	98	
2	Iron River	Bayfield	Lound Bratley		<u>62</u> 659	<u>57</u> 738	<u>62</u> 1104	<u>69</u> 755	<u>70</u> 800	<u>70</u> 888	<u>71</u> 1258	<u>59</u> 907	<u>73</u> 1370	<u>66</u> 942	102	
3	Minong	Washburn Douglas	Robbins		<u>68</u> 585		<u>76</u> 665	<u>75</u> 673	<u>80</u> 872	<u>78</u> 914	<u>71</u> 775	<u>79</u> 918	<u>75</u> 770	<u>75</u> 771	111	
4	Grandview	Bayfield	Bernard Kaspar	<u>58</u> 437	<u>57</u> 494		<u>57</u> 549		<u>76</u> 773	<u>79</u> 798	<u>60</u> 485	<u>60</u> 464	<u>52</u> 507	<u>62</u> 563	106	
5	Bayfield	Bayfield	Kaspar		<u>71</u> 564	<u>62</u> 535	<u>64</u> 560	<u>65</u> 547	<u>64</u> 741	<u>65</u> 745	<u>63</u> 586	<u>66</u> 565	<u>66</u> 866	<u>65</u> 634	109	
6	Shanagolden	Ashland	Vincent Faanes	<u>41</u> 231		<u>45</u> 573	<u>57</u> 485	<u>39</u> 308		<u>49</u> 368	<u>45</u> 380	<u>44</u> 321	<u>77</u> 667	<u>50</u> 419	98	
7	Montreal	Iron	Tryggeseth Butterbrodt			<u>57</u> 501						<u>44</u> 383	<u>47</u> 525	<u>49</u> 470	84	
8	Land O' Lakes	Vilas	Foster, Rudy Schimmels		<u>62</u> 484		<u>63</u> 427	<u>71</u> 627				<u>63</u> 450	<u>65</u> 512	<u>65</u> 500	94	
9	Hudson	St. Croix	Robbins Tweet	<u>70</u> 1435	<u>63</u> 947	<u>64</u> 1383	<u>66</u> 927	<u>66</u> 1027	<u>66</u> 862	<u>60</u> 1232	<u>64</u> 1159	<u>60</u> 774	<u>62</u> 996	<u>64</u> 1074	98	
10	Dresser	Polk	Robbins Tweet	<u>76</u> 1102	<u>79</u> 1110	<u>86</u> 1067	<u>65</u> 924	<u>71</u> 1096	<u>69</u> 1020	<u>59</u> 811	<u>65</u> 1164	<u>66</u> 795	<u>66</u> 1173	<u>70</u> 1026	112	
11	Union	Burnett	Caldwell Robbins	<u>43</u> 313	<u>45</u> 405	<u>40</u> 376	<u>44</u> 357	<u>45</u> 423	<u>50</u> 435	<u>55</u> 468	<u>52</u> 427	<u>49</u> 454	<u>55</u> 634	<u>48</u> 429	85	
12	Loraine	Polk	Robbins Faanes	<u>83</u> 1118	<u>85</u> 1078	<u>91</u> 1022	<u>81</u> 1107	<u>84</u> 1054	<u>75</u> 1227	<u>77</u> 1084	<u>81</u> 1236	<u>89</u> 1219	<u>78</u> 1155	<u>82</u> 1130	120	
13	Cumberland	Barron Washburn	Knuth, Fos- ter, Faanes	<u>81</u> 810	<u>72</u> 927		<u>85</u> 957	<u>72</u> 699		<u>67</u> 642	<u>78</u> 1016	<u>93</u> 1320	<u>82</u> 973	<u>79</u> 918	119	
14	Weyerhauser	Rusk Chippewa	Kemper Blanchard	<u>58</u> 729	<u>56</u> 687	<u>54</u> 750	<u>59</u> 1045	<u>63</u> 1127	<u>60</u> 1130	<u>62</u> 1143	<u>59</u> 910	<u>63</u> 1090	<u>63</u> 1126	<u>60</u> 974	95	

Table 1-2

Rte. No.	Nearest Town	Counties	Observers	Total Species/Individuals Recorded Each Year										Composite Species	
				1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	Ave.	Total
15	Couderay	Sawyer	Knuth Washburn				20 1034	69 609		82 917	84 865	81 850	82 901	81 863	110
16	Exeland	Sawyer	Robbins Rusk			81 1319	84 1019	86 1191	83 964	86 1190	72 1129	85 1267	86 992	84 1134	111
17	Gilman	Taylor	Kemper Blanchard	61 879	57 827	45 478	61 592	64 918	60 1346	62 963	67 1086	55 708	66 1303	60 910	98
18	Holway	Taylor	Tryggeseth Marathon		69 1110	63 617	51 661	55 541		54 637	48 564	49 594	58 630	56 669	92
19	Phillips	Price	Hilsenhoff Vincent	59 731	54 578	53 539	56 533	54 491	57 576	47 512	54 611	49 578		54 572	91
20	Rib Lake	Taylor	Hilsenhoff	69 687	64 634		68 669	70 719	76 686	64 774	72 748	72 756	71 706	70 711	103
21	Merrill	Lincoln	Soulen Langlade	69 698	59 866	65 963	66 1090	70 891	74 1056	76 958	69 920	73 895	63 707	68 904	101
22	Iraa	Lincoln	Rudy		68 744	73 1038	73 1216	72 790	72 994	73 1817	80 1141	85 969	78 1401	75 1123	111
23	McNaughton	Oneida	Dahlstrand Almon	48 329	52 328	48 277		84 716		65 496	66 469	59 469	67 501	61 448	103
24	Eagle River	Vilas Oneida	Donald	76 602	51 399	56 340	73 668	73 538	82 562	83 593	88 711	89 629	84 563	75 560	116
25	Popple River	Forest Florence	Barger Hilsenhoff	51 244	57 369	51 286	54 369	60 409	73 636	62 508	67 569	66 502	69 565	61 446	108
26	Crandon	Forest	Donald		81 642	73 684	78 724	73 715	74 739	83 556	73 672	81 639		77 671	112
27	Hollister	Oconto Langlade	Rudy		61 481	62 605	57 613	66 686	68 728	69 655	72 659	69 694	68 638	66 640	100
28	Amberg	Marinette	Lindberg	33 321	41 276	34 260	32 308	34 267	33 306	39 277	34 313	32 280	28 244	34 285	67

Table 1-3

Table 1-5

Rte. No.	Nearest Town	Counties	Observers	Total Species/Individuals Recorded Each Year											Composite Species	
				1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	Ave.	Total	
29	Wausaukee	Marinette	Lindberg	<u>44</u> 391	<u>48</u> 331	<u>44</u> 331	<u>39</u> 296	<u>43</u> 280	<u>46</u> 301	<u>38</u> 313	<u>43</u> 299	<u>34</u> 284	<u>37</u> 292	<u>42</u> 312	81	
30	Wash. Island	Door	Erickson	<u>83</u> 1456	<u>82</u> 1991	<u>86</u> 1593	<u>83</u> 1589	<u>77</u> 1192	<u>88</u> 1310	<u>88</u> 1597	<u>93</u> 1943	<u>94</u> 1585	<u>80</u> 1024	<u>86</u> 1536	117	
31	Esdaile	Pierce Pepin	Goddard Faanes	<u>77</u> 1269	<u>53</u> 771	<u>61</u> 1105	<u>65</u> 1351	<u>70</u> 1615	<u>66</u> 1304	<u>69</u> 1279	<u>69</u> 1577	<u>72</u> 1730	<u>73</u> 1611	<u>67</u> 1361	100	
32	Cochrane	Buffalo	Krumm	<u>57</u> 716	<u>65</u> 1150	<u>65</u> 921	<u>59</u> 945	<u>61</u> 1181	<u>56</u> 892	<u>67</u> 1145	<u>66</u> 1250	<u>63</u> 1156	<u>63</u> 1123	<u>62</u> 1048	94	
33	Gilmanton	Buffalo	Krumm	<u>55</u> 1586	<u>56</u> 1197	<u>58</u> 1144	<u>53</u> 999	<u>64</u> 1371	<u>60</u> 1248	<u>62</u> 1173	<u>66</u> 1308	<u>66</u> 1238	<u>60</u> 1111	<u>60</u> 1237	87	
34	Trempealeau	Trempealeau	Leshner	<u>60</u> 882	<u>58</u> 1044			<u>62</u> 812	<u>62</u> 813	<u>58</u> 758	<u>57</u> 693	<u>62</u> 828	<u>58</u> 632	<u>60</u> 808	82	
35	Cadott	Chippewa Eau Claire	Kemper Blanchard	<u>65</u> 678		<u>68</u> 702	<u>67</u> 701	<u>68</u> 871	<u>61</u> 706	<u>59</u> 694	<u>66</u> 811	<u>67</u> 841	<u>63</u> 957	<u>65</u> 773	96	
36	Unity	Clark	Kemper Fadness		<u>64</u> 1123	<u>61</u> 1101		<u>60</u> 1889	<u>53</u> 1469	<u>75</u> 1284	<u>58</u> 683	<u>63</u> 824	<u>64</u> 829	<u>62</u> 1150	100	
37	Hatfield	Jackson	Robbins		<u>59</u> 768		<u>57</u> 578	<u>61</u> 591	<u>64</u> 707	<u>64</u> 692	<u>72</u> 770	<u>63</u> 822	<u>55</u> 675	<u>62</u> 700	103	
38	Mather	Jackson Juneau	Robbins	<u>70</u> 879	<u>57</u> 364		<u>77</u> 983	<u>72</u> 774	<u>77</u> 907	<u>75</u> 781	<u>80</u> 700	<u>79</u> 800	<u>76</u> 836	<u>74</u> 780	120	
39	Stratford	Marathon	Barnes	<u>38</u> 525	<u>37</u> 565	<u>39</u> 531	<u>42</u> 790	<u>41</u> 858	<u>40</u> 698	<u>37</u> 824	<u>33</u> 696		<u>36</u> 771	<u>38</u> 695	63	
40	Wis. Rapids	Wood Marathon	Stevenson	<u>53</u> 844	<u>61</u> 1115		<u>69</u> 1323				<u>67</u> 1239		<u>69</u> 1266	<u>64</u> 1157	94	
41	Stevens Pt.	Portage Marathon	Bierbrauer	<u>58</u> 507	<u>51</u> 358	<u>57</u> 485		<u>55</u> 460	<u>55</u> 488	<u>53</u> 574	<u>60</u> 584	<u>57</u> 473	<u>58</u> 511	<u>56</u> 493	81	
42	Elderon	Marathon	Baumgartner	<u>52</u> 593	<u>54</u> 1200	<u>49</u> 696	<u>49</u> 559	<u>66</u> 843	<u>67</u> 818	<u>67</u> 767	<u>66</u> 873	<u>71</u> 918	<u>71</u> 1367	<u>61</u> 863	99	

Table 1-4

Rte. No.	Nearest Town	Counties	Observers	Total Species/Individuals Recorded Each Year										Composite Species	
				1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	Ave.	Total
43	Saxeville	Waushara	Newman Heig	$\frac{48}{592}$			$\frac{57}{500}$		$\frac{61}{900}$	$\frac{59}{798}$		$\frac{62}{785}$	$\frac{65}{873}$	$\frac{58}{741}$	86
44	Manawa	Waupaca	Rill	$\frac{57}{466}$	$\frac{48}{536}$	$\frac{59}{563}$	$\frac{65}{579}$	$\frac{64}{521}$	$\frac{62}{523}$	$\frac{64}{571}$	$\frac{64}{550}$	$\frac{61}{604}$	$\frac{66}{565}$	$\frac{61}{548}$	97
45	Oconto Falls	Oconto Menominee	Krysiak Tessen			$\frac{62}{726}$	$\frac{59}{519}$	$\frac{78}{1336}$	$\frac{81}{1805}$	$\frac{89}{1440}$	$\frac{87}{1591}$	$\frac{87}{1551}$	$\frac{81}{1396}$	$\frac{78}{1295}$	116
46	Omro	Winnebago Waupaca	Tessen	$\frac{64}{2138}$	$\frac{70}{1852}$	$\frac{72}{2272}$	$\frac{82}{2285}$	$\frac{89}{2591}$	$\frac{84}{2730}$	$\frac{87}{2726}$	$\frac{87}{2983}$	$\frac{83}{2424}$	$\frac{83}{2686}$	$\frac{80}{2469}$	109
47	Clintonville	Waupaca Outagamie	Rill Kaspar		$\frac{50}{1087}$	$\frac{57}{922}$	$\frac{55}{586}$	$\frac{57}{634}$	$\frac{66}{968}$	$\frac{64}{1112}$	$\frac{71}{1963}$	$\frac{71}{1078}$	$\frac{68}{1036}$	$\frac{62}{1043}$	99
48	Manitowoc	Manitowoc Kewaunee	Brouchoud	$\frac{67}{827}$	$\frac{63}{854}$	$\frac{56}{1405}$				$\frac{57}{754}$	$\frac{59}{981}$	$\frac{61}{845}$	$\frac{50}{817}$	$\frac{59}{926}$	93
49	Casco	Kewaunee Door	Lukes	$\frac{46}{732}$	$\frac{44}{740}$			$\frac{42}{864}$	$\frac{51}{1150}$	$\frac{46}{1001}$	$\frac{55}{1068}$	$\frac{52}{1215}$	$\frac{52}{1019}$	$\frac{49}{974}$	81
50	Newburg Cor's	LaCrosse Vernon	Rosso	$\frac{59}{1044}$	$\frac{63}{1417}$	$\frac{56}{1528}$	$\frac{60}{1717}$	$\frac{61}{1483}$	$\frac{64}{1545}$	$\frac{60}{1338}$	$\frac{62}{1351}$	$\frac{58}{1303}$	$\frac{56}{1288}$	$\frac{60}{1401}$	82
51	Viroqua	Vernon Monroe	Morse Weber	$\frac{59}{716}$	$\frac{54}{701}$	$\frac{53}{558}$	$\frac{49}{566}$	$\frac{54}{669}$	$\frac{53}{769}$	$\frac{56}{795}$	$\frac{56}{619}$	$\frac{54}{736}$	$\frac{57}{1088}$	$\frac{54}{722}$	78
52	Rolling Gr'd	Crawford	Weber	$\frac{54}{720}$	$\frac{53}{673}$	$\frac{54}{549}$	$\frac{53}{495}$	$\frac{52}{595}$	$\frac{54}{622}$	$\frac{54}{635}$	$\frac{52}{641}$	$\frac{54}{827}$	$\frac{54}{1096}$	$\frac{53}{685}$	76
53	New Lisbon	Juneau Monroe	Zimmerman		$\frac{63}{849}$	$\frac{64}{898}$	$\frac{61}{705}$		$\frac{64}{847}$		$\frac{61}{864}$		$\frac{68}{1041}$	$\frac{63}{867}$	82
54	Kendall	Monroe, Ver-non, Richland	Wood, Rob-bins, Weber		$\frac{62}{1114}$			$\frac{71}{1337}$		$\frac{67}{1305}$	$\frac{61}{749}$	$\frac{62}{1042}$	$\frac{59}{1039}$	$\frac{64}{1098}$	86
55	No. Freedom	Sauk	Zimmerman Lange	$\frac{68}{671}$	$\frac{69}{882}$	$\frac{66}{950}$	$\frac{63}{888}$	$\frac{68}{1030}$	$\frac{62}{872}$	$\frac{64}{814}$	$\frac{61}{892}$	$\frac{54}{788}$	$\frac{66}{830}$	$\frac{64}{862}$	91
56	Pardeeville	GreenLake Columbia	Gilmore	$\frac{49}{1216}$	$\frac{54}{1182}$	$\frac{59}{1326}$	$\frac{45}{1114}$	$\frac{50}{1207}$	$\frac{48}{1305}$	$\frac{44}{1494}$	$\frac{52}{1213}$	$\frac{49}{1057}$	$\frac{50}{1235}$		70

Table 1-5

				Total Species/Individuals Recorded Each Year											Composite Species	
Rte. No.	Nearest Town	Counties	Observers	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	Ave.	Total	
57	Princeton	GreenLake Marquette	Bauers	<u>62</u> 757	<u>68</u> 896	<u>63</u> 1013	<u>65</u> 763	<u>63</u> 761	<u>62</u> 787	<u>68</u> 706	<u>65</u> 686	<u>66</u> 580	<u>61</u> 713	<u>64</u> 766	91	
58	Fall River	Columbia	Tomlinson Gilmore	<u>53</u> 1030	<u>58</u> 1040		<u>73</u> 1790	<u>55</u> 1129	<u>55</u> 1176	<u>54</u> 1271	<u>47</u> 1260	<u>55</u> 1147	<u>48</u> 950	<u>55</u> 1199	86	
59	Brownsville	Dodge	Knuth, Gus- tafson, Donald	<u>50</u> 899							<u>43</u> 1403	<u>54</u> 2024	<u>56</u> 1235	<u>51</u> 1390	76	
60	Rolling Pr'e	Dodge FondDuLac	Bielefeldt Fuller	<u>54</u> 1339	<u>51</u> 2098			<u>50</u> 1838	<u>51</u> 3231	<u>63</u> 4507	<u>52</u> 3921	<u>57</u> 3183	<u>59</u> 3379	<u>56</u> 2937	96	
61	Beaver Dam	Dodge	Werner Ashman	<u>53</u> 1122	<u>57</u> 1442	<u>50</u> 1723	<u>58</u> 1447	<u>56</u> 1413	<u>56</u> 1816	<u>53</u> 1579	<u>49</u> 1543		<u>47</u> 1208	<u>53</u> 1455	83	
62	Eden	FondDuLac Washington	Reichwaldt	<u>56</u> 864	<u>45</u> 792	<u>46</u> 760	<u>45</u> 1127	<u>45</u> 1021	<u>40</u> 1006	<u>42</u> 976	<u>47</u> 1277	<u>39</u> 1093		<u>44</u> 991	76	
63	Pt. Washington	Ozaukee Sheboygan	Donald	<u>52</u> 1531	<u>54</u> 1746	<u>60</u> 2213	<u>61</u> 1999	<u>57</u> 1916	<u>57</u> 1936	<u>58</u> 1726	<u>63</u> 1548	<u>61</u> 2146	<u>59</u> 2081	<u>58</u> 1884	85	
64	No. Andover	Grant	Ingram, Rutt- man, Smith		<u>61</u> 2525				<u>68</u> 1254	<u>40</u> 820	<u>35</u> 1019		<u>62</u> 770	<u>53</u> 1278	79	
65	Hazel Green	Lafayette	Ingram Ellis	<u>57</u> 2532	<u>58</u> 1981		<u>43</u> 1161	<u>50</u> 1360	<u>44</u> 1061	<u>53</u> 1360	<u>53</u> 1449	<u>54</u> 1682	<u>58</u> 1655	<u>52</u> 1582	79	
66	Wlota	Lafayette Green	Barger Ellis	<u>62</u> 1484	<u>50</u> 811	<u>53</u> 917	<u>47</u> 1232	<u>48</u> 915	<u>57</u> 1723	<u>50</u> 1387	<u>55</u> 1651	<u>56</u> 1874	<u>58</u> 1757	<u>54</u> 1375	83	
67	Mount Horeb	Dane	Barger, Wer- ner, Ashman	<u>38</u> 520	<u>47</u> 1129	<u>54</u> 1410	<u>46</u> 2024	<u>47</u> 1438	<u>52</u> 1112	<u>53</u> 1224	<u>48</u> 998	<u>51</u> 867	<u>56</u> 972	<u>49</u> 1169	83	
68	Hebron	Jefferson Walworth	Zimmerman Ledger	<u>62</u> 657	<u>50</u> 992	<u>63</u> 949	<u>54</u> 821	<u>62</u> 952	<u>55</u> 933	<u>50</u> 867	<u>51</u> 1029	<u>51</u> 1257	<u>54</u> 1253	<u>55</u> 971	84	
69	Paris	Kenosha Walworth	Erickson	<u>59</u> 1122	<u>60</u> 1117	<u>57</u> 973	<u>55</u> 968	<u>54</u> 1026		<u>61</u> 1877			<u>58</u> 789	<u>58</u> 1125	82	
70	Raymond	Racine Kenosha	Erickson	<u>49</u> 1108	<u>47</u> 1216	<u>51</u> 1133	<u>53</u> 856	<u>59</u> 1031	<u>55</u> 918	<u>57</u> 916	<u>53</u> 758	<u>54</u> 1239	<u>49</u> 976	<u>53</u> 1017	75	

Table 2-1

Species	Total No. of Routes	Number of Individuals Per Route Per Year										Ave. No. Per Rte. Per Year	Mean An- nual % Change
		1966	1967	1968	1969	1970	1971	1972	1973	1974	1975		
Common Loon	102	0.3	0.4	0.4	0.7	1.2	0.5	0.4	0.3	0.5	0.3	0.5	
Horned Grebe	2							+		+		+	
Pied-billed Grebe	56	0.1	0.1	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.2	
Double-cr. Cormorant	2					+			0.1			+	
Great Blue Heron	251	0.6	0.7	0.7	0.9	1.1	0.9	1.0	0.8	1.1	0.6	0.8	
Green Heron	189	0.4	0.2	0.3	0.3	0.7	0.7	0.4	1.0	0.8	0.9	0.6	+14
Cattle Egret	1							+				+	
Great Egret	11	+	+	0.1	+	+		+		0.1	0.1	+	
Black-cr. Night Heron	7	+	+			+	+		+			+	
Least Bittern	4					+	+		+		+	+	
American Bittern	101	0.2	0.3	0.1	0.6	0.6	0.8	0.3	0.5	0.5	0.5	0.4	
Whistling Swan	1	+										+	
Canada Goose	21	+	0.1		0.1	0.2	0.1	0.3	0.4	0.7	0.5	0.2	
Mallard	240	8.5	2.9	5.4	3.5	1.9	2.1	3.1	4.0	5.0	4.2	4.1	
Am. Black Duck	23	0.1		0.3	0.2		+	0.1		+		0.1	
Gadwall	3							+			+	+	
Common Pintail	11	0.1		+					0.2	+	+	+	
Green-winged Teal	4	+							+		+	+	
Blue-winged Teal	128	0.9	0.6	0.8	1.1	0.7	0.8	0.5	1.9	1.1	0.6	0.9	
Am. Wigeon	1	+										+	
No. Shoveler	4							+	+	+		+	
Wood Duck	96	0.1	+	0.4	0.4	0.4	0.4	0.3	0.6	0.3	0.7	0.4	
Redhead	1				+							+	
Ring-necked Duck	11	0.1	+		0.1	+	+		+	0.1		+	
Lesser Scaup	7	0.1	+	+		0.1					+	+	
Com. Goldeneye	1							+				+	
Ruddy Duck	4		+	+					+			+	
Hooded Merganser	15	+	+	0.1	+	0.1	+	+		0.1	0.1	+	
Common Merganser	4		+				+	+	+			+	
Red-br. Merganser	8			0.5			0.2	0.7	+	+	+	0.1	

Table 2-2

Species	Total No. of Routes	Number of Individuals Per Route Per Year										Ave. No. Per Rte. Per Year	Mean An- nual % Change
		1966	1967	1968	1969	1970	1971	1972	1973	1974	1975		
Turkey Vulture	8	+								+	+	+	
No. Goshawk	6								+	+	+	+	
Sharp-shinned Hawk	5					+				+	+	+	
Cooper's Hawk	14	0.1			0.1	+	0.1	+	+	+	+	+	
Red-tailed Hawk	179	0.4	0.6	0.2	0.5	0.4	0.3	0.5	0.5	0.7	0.6	0.5	
Red-shouldered Hawk	26	+	0.1	+	+	0.1	+	+	0.1	0.1	+	+	
Broad-winged Hawk	69	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.3	0.2	0.2	+13
Swainson's Hawk	1									+		+	
Bald Eagle	2										+	+	
No. Harrier	94	0.3	0.1	0.4	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	
Osprey	12		+	0.1	+		+	+	0.1		+	+	
Merlin	1									+		+	
Am. Kestrel	197	0.4	0.5	0.5	0.6	0.5	0.7	0.6	0.7	0.7	0.7	0.6	+5
Ruffed Grouse	87	0.1	0.5	0.1	0.4	0.4	0.5	0.5	0.2	0.2	0.4	0.3	
Gr. Prairie Chicken	1										+	+	
Sharp-tailed Grouse	7				+	+		+	+	+	+	+	
Com. Bobwhite	117	0.5	0.7	0.8	0.4	0.5	0.2	0.7	0.9	1.0	1.5	0.7	
Pheasant	243	5.1	3.5	2.6	2.5	3.6	4.2	4.9	4.6	3.6	3.0	3.8	
Gray Partridge	16	0.1	+	0.2			0.1		0.1	0.1	+	0.1	
Wild Turkey	1		+									+	
Sandhill Crane	38	0.1	0.3	0.4	0.1		0.2	0.1	0.2	0.2	0.1	0.2	
King Rail	1						+					+	
Virginia Rail	13				0.1	+		+	+	+		+	
Sora	94	0.2	0.2	0.4	0.2	0.3	0.1	0.1	0.3	0.3	0.1	0.2	
Com. Gallinule	9	0.1	+	+	+	+		+			+	+	
Am. Coot	25		0.1	0.1	0.2	+	0.1	+	0.6	0.1	0.1	0.1	
Killdeer	513	5.7	6.8	5.7	4.5	5.6	7.9	6.9	7.9	7.9	10.4	6.9	+5
Upland Sandpiper	165	1.2	1.1	1.0	0.7	1.2	1.6	0.7	0.9	1.0	1.0	1.0	
Lesser Yellowlegs	1			+								+	
Solitary Sandpiper	2	+			+							+	

Table 2=3

Species	Total No. of Routes	Number of Individuals Per Route Per Year										Ave. No. Per Rte. Per Year	Mean An- nual % Change
		1966	1967	1968	1969	1970	1971	1972	1973	1974	1975		
Spotted Sandpiper	131	0.4	0.7	0.5	0.3	0.4	0.4	0.2	0.6	0.3	0.5	0.4	
Wilson's Phalarope	5	0.1					+			+	+	+	
Am. Woodcock	16	+	0.1	0.1	0.1	+	0.1	+		+	+	+	
Common Snipe	161	0.5	0.6	0.9	0.8	0.5	0.7	0.5	1.3	0.8	1.8	0.8	
Herring Gull	34	13.0	13.0	11.4	5.4	6.4	4.6	4.5	10.2	5.9	2.0	7.6	
Ring-billed Gull	10		3.7	0.9		0.6	1.9	2.2	2.9	1.5	0.8	1.4	
Forster's Tern	4							+	+	+	+	+	
Common Tern	16	0.4	0.1	0.5		1.9	1.1	0.6	0.1	+	0.1	0.5	
Caspian Tern	9	+	0.1	0.1		+	+	0.1	+	0.1	0.3	0.1	
Black Tern	123	1.6	1.7	2.3	1.6	0.9	0.8	0.7	1.0	0.8	0.4	1.2	-14
Rock Dove	385	13.0	18.0	12.0	11.1	13.7	13.2	17.5	15.1	17.4	13.0	14.4	
Mourning Dove	512	14.2	13.1	12.4	10.8	11.7	14.7	18.7	16.8	15.3	16.1	14.4	+3
Yellow-billed Cuckoo	180	0.3	0.4	0.3	0.4	0.4	0.9	0.5	0.9	0.6	0.7	0.5	+10
Black-billed Cuckoo	358	1.4	1.3	1.3	1.2	2.2	2.9	1.9	1.8	2.0	1.5	1.7	
Screech Owl	3						+	+		+		+	
Great Horned Owl	31		+	+	+	0.2	0.1	0.1	0.1	+	0.1	+	
Barred Owl	47	0.1	0.1		0.2	0.1	0.1	0.3	0.1	0.2	0.1	0.1	
Long-eared Owl	2							+		+		+	
Short-eared Owl	2			+			+					+	
Saw-whet Owl	1						+					+	
Whippoorwill	69	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	+9
Com. Nighthawk	62	0.2	0.1	0.2	0.3	0.2	0.2	0.3	0.2	0.3	0.2	0.2	
Chimney Swift	385	4.3	4.9	3.2	2.1	2.8	6.3	4.1	3.9	4.3	3.2	3.9	
Ruby-thr. Hummingbird	107	0.1	0.1	0.3	0.1	0.4	0.3	0.2	0.2	0.2	0.3	0.2	
Belted Kingfisher	189	0.4	0.5	0.3	0.4	0.5	0.5	0.3	0.4	0.6	0.6	0.4	
Common Flicker	586	6.9	8.6	9.2	6.3	5.6	6.3	5.2	6.3	5.1	5.4	6.5	-5
Pileated Woodpecker	121	0.2	0.3	0.3	0.4	0.2	0.3	0.4	0.4	0.5	0.3	0.3	
Red-bellied Woodpec'r	113	0.6	0.6	0.4	0.3	0.6	0.4	0.7	0.6	0.6	0.5	0.5	
Red-headed Woodpecker	367	2.4	3.5	2.4	2.3	1.8	2.5	2.6	2.6	2.1	3.0	2.5	
Yellow-b. Sapsucker	148	0.2	0.5	1.0	1.2	1.0	1.0	1.0	0.7	1.4	0.9	0.9	+11

Table 2-4

Species	Total No. of Routes	Number of Individuals Per Route Per Year										Ave.No. Per Rte. Per Year	Mean Annual % Change
		1966	1967	1968	1969	1970	1971	1972	1973	1974	1975		
Hairy Woodpecker	220	0.7	0.4	0.5	0.6	0.7	0.7	0.7	0.4	0.8	0.8	0.6	
Downy Woodpecker	325	1.0	0.6	1.3	0.9	1.4	1.2	1.3	1.4	1.3	1.3	1.2	+7
Eastern Kingbird	517	4.8	3.8	4.4	2.9	3.2	4.0	3.7	3.7	2.9	3.1	3.6	
Western Kingbird	1		+									+	
Crested Flycatcher	538	4.8	4.9	5.2	6.7	6.3	6.8	6.3	7.1	6.8	5.2	6.0	+5
Eastern Phoebe	403	1.9	1.9	1.5	2.7	2.6	2.2	2.0	1.3	2.0	1.6	2.0	
Yellow-bel. Flycatcher	18	0.1		+	+	0.1	0.1	+	0.1	+	+	0.1	
Acadian Flycatcher	3								+	+	+	+	
Willow Flycatcher	168	0.6	0.6	0.3	0.4	0.7	0.8	0.8	0.7	0.6	0.7	0.6	
Alder Flycatcher	168	1.0	1.3	1.3	1.0	1.6	0.8	0.8	0.9	0.8	0.6	1.0	
Least Flycatcher	385	4.3	4.6	6.1	6.1	6.1	5.5	5.6	5.9	5.3	3.8	5.3	
Eastern Pewee	487	4.3	4.4	4.0	4.1	5.0	4.1	4.1	3.3	3.5	2.9	4.0	-3
Olive-sided Flycatcher	25	+	0.1	0.1	+	0.1	0.1	0.1		+	+	0.1	
Horned Lark	342	4.1	5.2	1.8	2.7	3.1	4.1	6.4	3.8	4.5	4.0	4.0	
Tree Swallow	452	5.4	5.9	8.7	6.8	5.8	8.1	9.3	10.0	9.7	8.6	7.8	+7
Bank Swallow	296	14.3	7.2	4.6	11.6	8.5	10.7	10.0	10.7	6.1	4.7	8.8	
Rough-winged Swallow	220	1.4	0.7	0.8	1.6	1.3	0.9	1.0	1.3	1.8	1.3	1.2	
Barn Swallow	572	12.2	12.1	16.1	12.7	16.2	15.4	15.8	15.8	13.8	15.5	14.2	
Cliff Swallow	354	7.7	14.4	20.0	26.3	16.6	16.4	32.4	16.7	18.5	25.9	19.5	
Purple Martin	414	8.4	6.4	6.8	6.0	6.9	10.4	8.1	7.9	7.6	8.2	7.7	
Gray Jay	10				0.1	+			0.1	+	+	+	
Blue Jay	593	12.2	11.7	13.4	11.3	13.5	13.5	11.4	12.8	15.0	13.4	12.8	
Northern Raven	137	0.5	1.1	1.0	1.5	0.9	0.8	1.4	1.1	1.6	1.3	1.1	+7
Am. Crow	605	28.4	37.5	30.6	33.5	34.2	34.6	35.6	35.5	37.8	38.4	34.6	+4
Black-cap. Chickadee	417	2.0	2.5	3.6	3.7	2.9	3.1	3.1	3.5	4.3	4.3	3.3	+6
Boreal Chickadee	7						0.1	0.1	+	+	+	+	
Tufted Titmouse	33	0.2	0.1	0.2	+		0.2		+	+	0.2	0.1	
White-br. Nuthatch	318	1.4	1.5	1.6	1.8	1.8	1.0	1.2	2.1	1.6	1.6	1.6	
Red-breasted Nuthatch	93	0.1	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.8	0.3	+15
Brown Creeper	15	+	0.1		+	+	+	+	+		+	+	

Table 2-5

Species	Total No. of Routes	Number of Individuals Per Route Per Year										Ave. No. Per Rte. Per Year	Mean An- nual % Change
		1966	1967	1968	1969	1970	1971	1972	1973	1974	1975		
No. House Wren	564	9.0	8.1	7.6	9.3	9.9	10.0	10.4	8.3	10.2	10.9	9.4	
Winter Wren	83	0.2	0.4	0.5	0.5	0.4	0.5	0.4	0.3	0.4	0.8	0.4	
Bewick's Wren	1	+										+	
Carolina Wren	2	+								+		+	
Marsh Wren	69	0.5	0.4	0.4	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.3	
Sedge Wren	332	3.0	2.4	3.2	3.8	3.9	3.2	2.9	3.0	2.8	2.6	3.1	
No. Mockingbird	2							+	+			+	
Gray Catbird	562	8.1	7.2	7.8	8.3	6.4	6.7	7.9	6.8	6.4	7.4	7.3	
Brown Thrasher	556	5.0	5.1	3.9	4.4	4.9	4.9	5.1	5.2	5.6	5.2	4.9	
Am. Robin	605	33.6	36.2	34.6	40.7	42.0	45.9	47.8	42.8	42.6	39.2	40.5	+3
Wood Thrush	339	3.4	2.2	2.1	3.5	2.4	2.8	2.6	2.2	2.7	2.0	2.6	
Hermit Thrush	119	0.8	1.0	1.6	1.3	1.2	1.4	1.5	1.1	1.3	1.9	1.3	
Swainson's Thrush	9			+	+		+	+	+		+	+	
Veery	349	5.6	7.0	6.9	7.8	6.6	8.1	7.6	7.1	7.1	7.3	7.1	
Eastern Bluebird	390	3.1	2.4	2.3	1.8	2.6	2.3	2.5	1.6	1.9	1.7	2.2	-4
Blue-gray Gnatcatcher	5	+				+					+	+	
Golden-crowned Kinglet	28	+	0.1	+	0.1	0.1	0.1	+	0.2	+	0.1	0.1	
Ruby-crowned Kinglet	27		+	0.1	0.1	+	0.2	0.1	0.1	0.1	0.2	0.1	
Cedar Waxwing	399	7.0	4.1	7.2	5.9	6.4	7.4	4.4	3.8	3.8	5.6	5.6	
Loggerhead Shrike	15		+	+	+	0.1	0.3	+	+		0.1	0.1	
Eur. Starling	570	42.4	56.7	66.5	80.8	68.7	70.0	53.8	64.0	72.1	69.9	64.5	
Bell's Vireo	6	+	+				+	+	+			+	
Yellow-throated Vireo	230	0.9	0.7	0.6	0.6	0.7	0.8	0.7	0.7	0.7	0.9	0.7	
Solitary Vireo	43	+	0.1	0.1	0.1	0.2	0.2	0.3	0.1	0.1	0.1	0.1	
Red-eyed Vireo	536	8.8	11.5	13.7	14.7	16.3	13.7	13.6	12.4	14.3	15.6	13.5	
Warbling Vireo	490	5.5	3.9	3.9	4.0	4.9	4.5	4.3	3.5	3.9	3.5	4.2	
Black & White Warbler	205	0.4	1.1	1.2	1.4	2.0	1.3	1.6	1.1	1.3	1.4	1.3	
Worm-eating Warbler	1				+							+	
Golden-winged Warbler	190	1.0	1.0	0.9	0.9	1.8	1.3	0.8	1.0	1.1	1.5	1.1	
Blue-winged Warbler	56	0.2	0.1	+	+	0.2	0.1	0.3	0.2	0.2	0.2	0.2	

Table 2-6

Species	Total No. of Routes	Number of Individuals Per Route Per Year										Ave. No. Per Rte. Per Year	Mean An- nual % Change
		1966	1967	1968	1969	1970	1971	1972	1973	1974	1975		
Nashville Warbler	208	0.9	3.0	2.2	4.2	4.6	3.4	2.2	2.3	2.3	2.3	2.7	
Parula Warbler	67	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.1	0.2	0.3	0.2	
Yellow Warbler	491	6.0	5.3	4.7	4.9	4.8	4.8	4.4	4.6	5.1	4.5	4.9	
Magnolia Warbler	30	+		0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	
Cape May Warbler	8						+		+	+	0.1	+	
Black-thr. Blue War.	3								+	+	+	+	
Yellow-rumped Warbler	75	0.1	0.4	0.3	0.6	0.4	1.0	0.6	0.5	0.8	0.6	0.4	+17
Black-thr. Green War.	114	0.7	1.4	1.6	1.4	1.3	1.3	1.1	0.8	1.0	1.1	1.2	
Cerulean Warbler	10		+	+		+		+	+	+	+	+	
Blackburnian Warbler	101	0.3	0.5	0.6	0.3	0.8	0.8	0.7	0.6	0.5	0.3	0.5	
Chestnut-sided War.	259	2.4	3.8	5.2	5.3	6.0	4.4	4.9	4.9	5.5	5.5	4.8	+6
Bay-breasted Warbler	2		+		+							+	
Blackpoll Warbler	1	0.1										+	
Pine Warbler	92	0.1	0.1	0.1	0.5	0.4	0.3	0.5	0.4	0.5	0.7	0.4	+18
Palm Warbler	8			+	+		+	+	+	+	+	+	
Ovenbird	412	8.7	12.0	13.5	12.7	11.8	11.7	12.5	12.0	12.0	11.9	11.9	
Northern Waterthrush	45	0.1	0.1	+	+	+	+	0.1	0.2	0.3	0.1	0.1	
Louisiana Waterthrush	3		+					+		+		+	
Connecticut Warbler	25		+	0.1	+	0.2	0.1	0.1	0.1	+	0.1	0.1	
Mourning Warbler	217	1.1	1.7	1.5	2.3	2.4	2.2	2.1	1.3	1.9	2.1	1.9	
Com. Yellowthroat	588	16.3	14.1	13.7	15.8	17.6	16.4	16.7	16.6	16.5	18.0	16.2	
Yellow-breasted Chat	4				+	+	+				+	+	
Wilson's Warbler	3				+			+				+	
Canada Warbler	67	0.1	0.1	0.3	0.3	0.4	0.2	0.4	0.2	0.3	0.2	0.2	
Am. Redstart	287	1.9	1.8	2.1	2.3	2.4	2.4	2.2	2.7	2.0	1.9	2.2	
House Sparrow	509	91.5	109.5	69.9	71.4	92.1	92.8	96.7	92.7	81.7	91.2	88.9	
Bobolink	529	18.3	16.0	12.9	13.7	20.8	22.1	24.0	16.1	23.3	19.9	18.7	
Eastern Meadowlark	511	17.2	16.4	10.5	12.8	12.2	17.3	18.5	17.2	16.6	16.4	15.5	
Western Meadowlark	495	31.2	30.8	27.1	23.2	25.6	27.6	27.7	27.9	24.4	24.3	27.0	
Yellow-headed Blkbd.	45	0.4	0.3	0.3	0.4	0.5	1.0	1.2	0.8	0.4	0.8	0.6	
Red-winged Blackbird	603	122.3	125.6	115.8	117.8	135.6	167.7	161.3	176.7	165.7	167.4	145.6	+5

Table 2-7

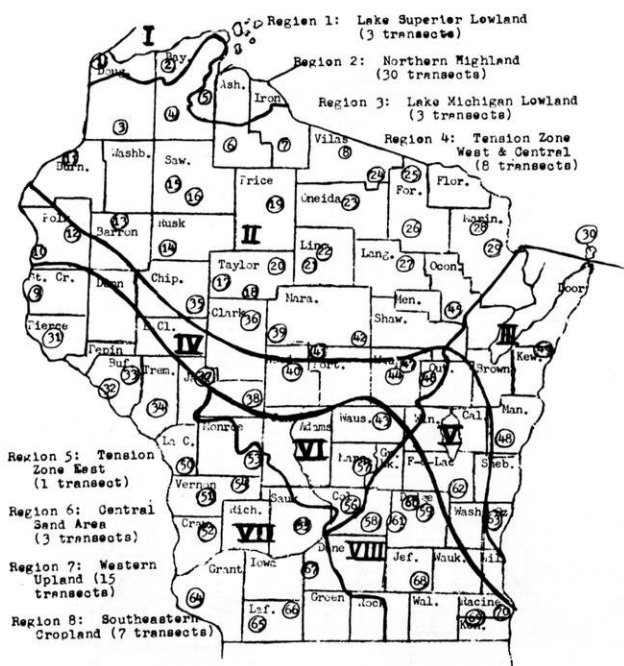
Species	Total No. of Routes	Number of Individuals Per Route Per Year										Ave. No. Per Rte. Per Year	Mean An- nual % Change
		1966	1967	1968	1969	1970	1971	1972	1973	1974	1975		
Orchard Oriole	11	+	+	+				+	+	+	0.1	+	
Northern Oriole	547	6.9	5.5	5.6	5.7	7.8	7.8	7.1	7.5	7.3	8.2	6.9	
Brewer's Blackbird	234	2.4	2.2	4.0	4.5	4.3	4.2	4.5	3.7	3.3	3.1	3.6	
Common Grackle	557	38.0	38.6	42.8	32.0	40.4	50.2	52.2	66.0	52.2	52.4	46.5	+7
Brown-headed Cowbird	585	21.8	19.7	19.2	20.1	18.8	19.5	23.4	23.1	20.0	22.5	20.8	
Scarlet Tanager	348	1.8	2.0	1.5	1.5	2.2	2.8	3.4	2.5	2.2	2.9	2.3	
No. Cardinal	286	4.1	3.9	3.3	3.3	3.8	3.8	3.7	4.9	4.9	5.0	4.1	+4
Rose-br. Grosbeak	545	6.7	7.5	7.6	9.8	10.0	10.7	10.1	11.7	11.7	11.3	9.7	+7
Indigo Bunting	561	9.7	9.9	8.1	9.6	9.0	9.8	10.8	11.6	12.3	12.9	10.4	+4
Dickcissel	297	11.5	16.0	8.3	3.0	2.4	5.0	5.5	5.0	3.4	2.4		-19
Evening Grosbeak	24			0.1	0.2	0.2	+	0.2	0.1	0.2	0.2	0.1	
Purple Finch	183	0.6	0.8	1.8	1.6	1.1	0.8	1.6	0.9	0.8	0.9	1.1	
Pine Siskin	25	+		0.1	0.3	0.2	+	0.1	0.1	+	0.3	0.1	
Am. Goldfinch	576	12.1	12.3	14.0	10.4	11.8	12.8	10.0	10.9	8.8	10.1	11.3	-3
Red Crossbill	21		0.1		0.3	0.1		0.8	1.1	0.3	0.1	0.3	
Wh-winged Crossbill	3				+					+		+	
Rufous-sided Towhee	394	3.4	3.9	3.3	3.3	3.4	4.0	3.7	2.9	3.4	3.2	3.4	
Savannah Sparrow	505	26.9	24.7	24.1	24.7	27.3	26.2	26.2	29.8	26.5	34.0	27.0	
Grasshopper Sparrow	283	3.2	3.7	3.4	2.3	2.0	2.2	1.8	1.7	1.0	1.6	2.3	-13
LeConte's Sparrow	18			0.2	0.1	0.2	+	0.1	0.1	+	+	0.1	
Henslow's Sparrow	88	0.6	0.3	0.2	0.2	0.3	0.1	0.2	0.4	0.2	0.2	0.3	
Vesper Sparrow	455	12.6	11.1	9.7	9.6	9.9	10.6	9.5	7.6	8.2	7.5	9.6	-5
Lark Sparrow	8				+	+	+	0.1		+	+	+	
Northern Junco	23		0.2		+	0.2	+	0.1	0.1	0.1	0.2	0.1	
Chipping Sparrow	565	6.9	8.5	8.0	8.9	10.2	8.5	11.2	8.7	9.8	10.0	9.1	+3
Clay-colored Sparrow	268	2.3	2.1	2.1	2.5	2.5	2.3	1.9	2.0	3.0	2.3	2.3	
Field Sparrow	397	8.8	8.2	6.1	5.9	5.9	6.3	5.1	5.8	5.3	5.2	6.3	-5
White-thr. Sparrow	202	1.4	2.0	4.7	2.9	2.8	2.7	4.0	3.2	3.8	4.7	3.2	+11
Lincoln's Sparrow	8		+				+		+	0.1	0.1	+	
Swamp Sparrow	240	1.4	1.2	1.3	1.5	1.4	1.4	1.3	1.5	1.2	1.7	1.4	
Song Sparrow	603	28.2	28.3	25.9	29.4	30.1	28.6	30.4	33.0	29.2	31.6	29.5	+2

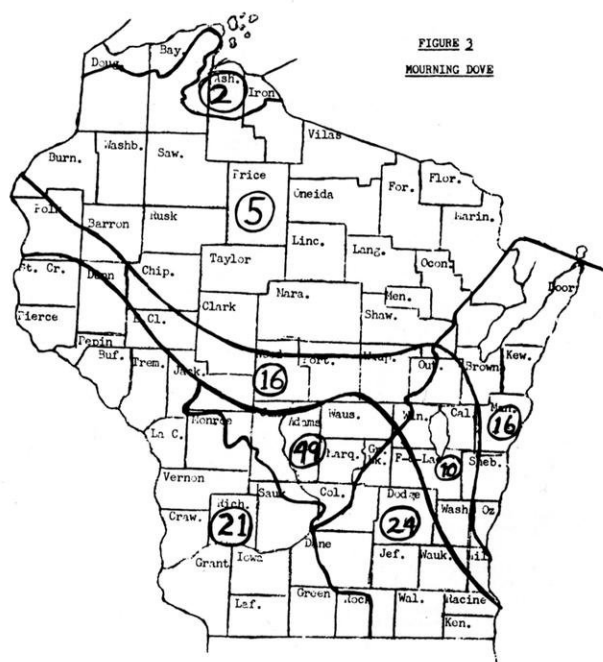
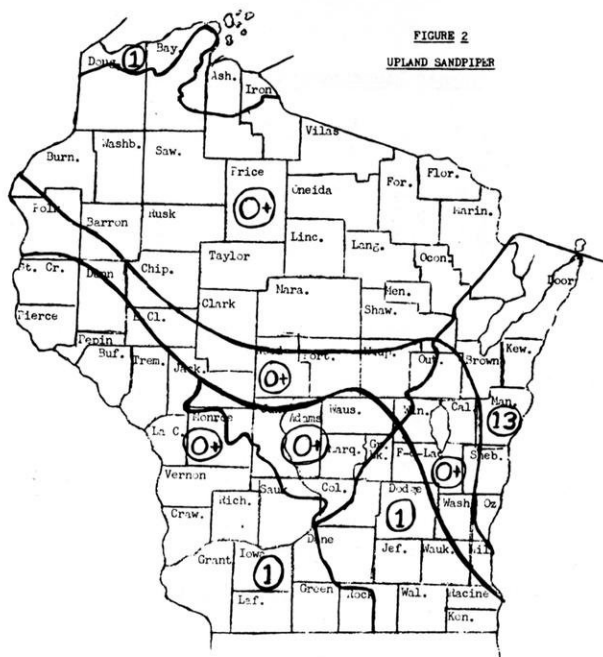
Table 3. Summer Distribution of Swallows in Wisconsin

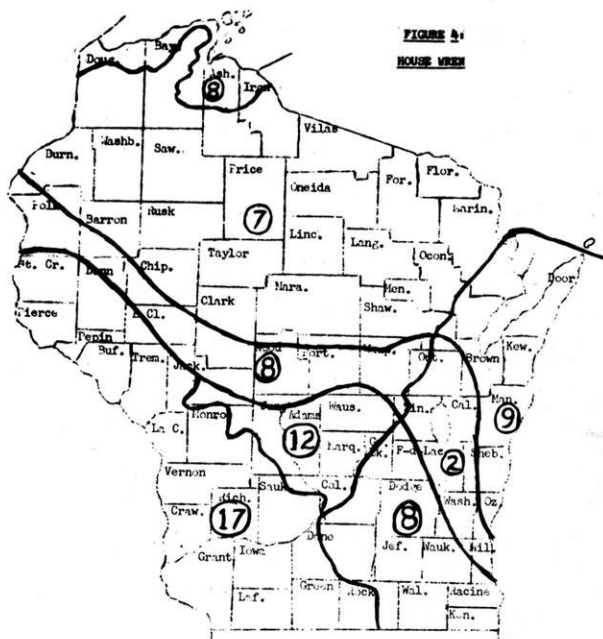
Species	Lake Superior Lowland	Northern Highland	Lake Michigan Lowland	Tension Zone West & Central	Tension Zone East	Central Sand Area	Western Upland	Southeastern Cropland	Statewide Average
Tree	22	12	4	7	3	4	2	4	6.9
Bank	1	3	1	10	24	0+	15	12	8.8
Rough-winged	0	1	1	2	1	0	3	1	1.2
Barn	10	11	20	21	15	12	14	20	14.2
Cliff	61	37	21	5	4	2	8	1	19.5
Purple Martin	2	6	37	8	7	3	3	13	7.5

Figures indicate number of individuals per transect per year recorded on Breeding Bird Survey transects in eight geographic regions, 1966-1975.

FIGURE 1: DIVISION OF WISCONSIN INTO EIGHT GEOGRAPHICAL REGIONS







Dr. Bruno L. von Jarchow

1894 - 1977

Dr. Bruno L. von Jarchow had a lifelong interest in the out-of-doors, in wildlife, and in conservation. As a boy in Germany he roamed the fields and woods, studying animals, birds and butterflies. He obtained a medical degree in Berlin, and also earned Ph.D's in botany and zoology. In 1922, he arrived in the United States, staying one year in Glidden and then coming to Racine.



His property just north of Kenosha County, originally 40 acres, was maintained as a wildlife sanctuary where all living things found refuge. Here were raccoons, rabbits, deer, red and gray fox dens, and many species of nesting birds. Here was an ecosystem in good balance. From this long association with wildlife and many years of reading in this field, he had a remarkably deep understanding of animal and bird behavior. Several of his papers appeared in the Passenger Pigeon.

A beautiful book on animal tracks with his own minutely detailed pencil drawings as illustrations was ready for the press, but when he discovered that almost all of its sale would help hunters to track the animals, Dr. von Jarchow did not allow its publication. It still remains in manuscript. He was an accomplished painter in oils leaving perhaps twenty to thirty works, primarily of birds, animals and landscapes, almost of which were given to friends.

Bird banding in the 30's was one of his projects. He netted mainly the smaller passerines, and later worked some with Ed and George Prins on hawks.

A pioneer in the conservation movement, Dr. von Jarchow stumped the state in support of bills to place hawks and owls and wolves on the protected list; for the removal of bounties; for humane traps and other wildlife legislation. He also spoke to many groups in great depth on birdlife, plant ecology, migration, animal behavior, and animal evolution.

He served as Vice President of WSO under Alvin Throne, and became President in 1943.

Dr. von Jarchow took many field trips with Albert Fuller, Botanist from the Milwaukee Museum, and with Norbert Raeder of the Kenosha Museum. Playing a role in the preservation of The Ridges at Bailey's Harbor, he was a longtime friend of Miss Emma Toft.

His travels took him to the world's wild places to see wildlife in its natural setting before the days of the package tour. He went down the Pechora River by boat; to the Arctic (in pre-World War I Russia); up the Amazon when it was virtually unknown (partly by dugout canoe); across Africa in the 30's by land rover alone, without a guide or a gun; to Mexico, Surinam, Japan, Sumatra, and other places.

Because his life was devoted to wildlife, he left his estate to be used for the preservation of endangered species.

From the Hoy Nature Club

IN MEMORIAM — MARGARETTE ELTHEA MORSE

Miss Margarette E. Morse of Viroqua died while on her usual winter trip to Florida in the Spring of 1976. She was born at Springfield, Vernon County, on the family farm and in her youth was selected by the business people of Viroqua as the prettiest girl in town. Her beauty was enhanced by intelligence and she kept these two qualities throughout her life.

Miss Morse received training to become a science teacher and she practiced her skills in this field for many years at Cleveland, Ohio and Minneapolis, Minnesota. While in the former city she became Secretary of the Kirtland Bird Club and an assistant in ornithology and field trips for their Museum of Natural History. During the early 1920's she was active with the Minneapolis Audubon Society and was recognized by Dr. Thomas S. Roberts in his



"Logbook of Minnesota Bird Life" for her complete and accurate records of spring migration in the 1922-24 years. In 1919 she joined the American Ornithologists Union and in 1921 the Wilson Ornithological Club. At the time of her death, she was among those with the longest membership status in both organizations - over half a century in both.

In the early 1930's Miss Morse returned to Viroqua to live in retirement with her sister, Mary, at their family home. One of her hobbies was bird banding and she operated the only licensed station in Vernon County in 1939. That was the year W.S.O. was formed and she joined as soon as she heard about the new group in 1940. Although she missed being a Charter Member, she was an active participant for about 36 years. When a questionnaire was sent to W.S.O. members about 25 years ago, her only criticism was that the annual conventions did not include sufficient consideration of related natural resources conservation programs. She also wrote the Genoa Section for the first edition of "Wisconsin's Favorite Bird Haunts".

About fifteen years ago, Miss Morse was cited by the U.S. Fish and Wildlife Service for contributing Bird migration and census notes to them continuously for 40 years. This significant recognition indicates the value of her bird records and dedication to the scientific approach. But all of nature was a wonderful source of fun and recreation for her and it helped to keep her young in spirit. Her cheerful presence will be missed at future W.S.O. conventions and field gatherings.

Walter E. Scott
July 18, 1977

IN MEMORIAM — JOHN HARWOOD EVANS

In the early years of W.S.O. history, J. Harwood Evans was known as "Evie" to all who worked with him. When this new organization was formed, he became one of the first to join and he gave his full support as a Charter Member. At that time (1939) he was Dean of Boys at Oshkosh High School and a biology teacher. He also had over twelve years of experience as Director of bird and nature study at the Culver Woodcraft Camp near Culver, Indiana. After the death of Karl Kahmann, Evie became third Treasurer for this fledgling group of bird students. He served in this capacity for



over seven years during which time the annual treasury balance twice failed to reach one hundred dollars. In 1947-48 he became the 8th President of W.S.O. and in total served 11-1/2 years on the Board. In 1965 he received the Silver Passenger Pigeon Service Award, which was richly deserved.

Evie was born in LeRoy, Illinois, on November 16, 1899 and received his bachelor and master degrees at the University of Illinois. He began his career teaching biology at Janesville High School and in 1929 became an assistant at the University of Illinois Department of Entomology. He came to Oshkosh High School in 1931 where he served as Dean for 15 years and six years as Principal. Besides 21 years at the Culver Military Academy summer camp, he was a Boy Scout Counselor in nature subjects. They gave him their Silver Beaver Award in 1955 and he received numerous other commendations for his community service.

Evie was most interested in bird study as a hobby and for collection of more scientific information on migration and nesting. His primary concern was for the educational values resulting from bird study and nature appreciation. One of the other organizations benefiting from his enthusiasm was the Oshkosh Public Museum Board on which he served as President. In this connection he wrote his only published article for the **Passenger Pigeon** on "Birds and Eggs in the Oshkosh Public Museum".

On March 9, 1943 when the going was tough for W.S.O. during the war years, he wrote this "Dear Walt" note to me: "Don't give up the ship. You sound lower than I feel. Maybe we should rub beads and cure our troubles. Anyway, we have 24 renewals. I'm sending money for all bills tomorrow. That leaves us a bit over \$95.00. Maybe we'll get some more renewals.....".

Evie spent his retirement years in Janesville and recently had traveled in Australia and New Zealand for a memorable nature study experience. He died in his sleep on November 20, 1976.

Walter E. Scott
July 17, 1977

Help Save

HABITAT FOR WILDLIFE

Mary and Charlie Nelson

FIELD **NOTES**



BY HAL AND NANCY ROBERTS

The Summer Season

June 1 to July 31, 1976

The summer of 1976 set many records for weather. Temperatures were consistently above normal and the drought became a prime concern and topic of conversation. Early in the summer the northwest part of the state was hardest hit by the lack of moisture; in late July some rain fell in the northern two-thirds of the state with considerably lighter amounts in southern areas. At the end of the period soil moisture remained short through most of the state.

The season was noteworthy for the increased numbers of southern birds in our area. Southern herons were well represented, including the Louisiana Heron and the Glossy Ibis. There were observations of Yellow Crowned Night Herons in new locations. A number of southern warblers which are missed many seasons were present this year, including Prairie Warbler, Kentucky Warbler, and Yellow-breasted Chat.

The hot spot of the season was definitely Oconto Marsh where most of the southern herons were found, along with the uncommon gulls and terns.

There were fifty-one observers, up one from the 1975 season.

It is hard to believe that any season could match the exciting findings of Summer 1975, but this season comes very close to doing just that. Following are the highlights:

Common Loon: Found in northern counties and an out-of-range individual in Ozaukee County on July 27. (Eric Epstein).

Red-necked Grebe: Nesting in St. Croix county where birds have been found every summer since 1972 (Craig Faanes).

Eared Grebe: Found in Dunn County on June 6 (Sam Robbins). This is the first report since 1970 and only the second report since 1968 when the first nesting record for the state was established in St. Croix County by Robbins.

Western Grebe: One was observed on Phantom Lake Flowage, Crex Meadows, on June 8, by DNR Technician, Lyman Lang (fide Jime Evrard). Last report was in 1971.

Double-crested Cormorant: Observations were made in the following counties: Burnett, Trempealeau, Marathon, Brown, Door, Marquette, Green Lake. This is essentially the same as in 1975 with the addition of a Colony of nine nests and 89 birds in Trempealeau County (Fred Leshner) and two new colonies on the Door County portion of Grand Traverse Island (Tom Erdman).

Great Blue Heron: A normal population of 48 was found in Burnett County on July 21 (Evrard). Robbins found a nest with noisy young on June 19 in a 40-acre woodlot several miles from any wet feeding area in northwest Clark County.

Little Blue Heron: Located in Oconto Marsh by Daryl Tessen, Harold Lindberg and others. One or two were present in Green Bay from June 8 (Joel Trick) until July 16 (Erdman). Two adults were found in Grand River Marsh on June 4 (Mary Donald and Roger Sundell).

Cattle Egret: Several adults nested on Oconto Marsh and were seen from June 15 (Robbins) through July (Dennis Gustafson, Trick, Lindberg) and at least 10 adults and young were observed (Tessen).

Great (Common) Egret: Seen in westernmost counties from Vernon to Burnett and in Brown, Dodge and Green Lake counties as expected. Unusual were the observations on July 27 in Rock and Jefferson Counties (Thomas Ellis).

Snowy Egret: Appear to have nested again in Oconto Marsh where four were located on June 28 (Gustafson) and young were banded (Erdman).

Louisiana Heron: One adult was located on June 28 and four adults on July 8 in Oconto Marsh (Gustafson). They were seen there until the end of the period (Tessen). One was seen in Sauk County on June 3 (Donald and Sundell).

Yellow-crowned Night Heron: One was in Oconto Marsh on June 18 (Tessen), Two adults and one immature on June 28 but only one immature on July 8 (Trick). Observed in Oconto Marsh on July 5 (Lindberg) and an adult on July 24 (Trick, Dave Calder). One was spotted in Wood County on June 2 (Ken and Jan Luepke), two in Outagamie County on July 30 (Jim Anderson), Dar Tiede, Kay Minkebig and Larry Prickett). Three were in LaCrosse on July 11 (Leshner) and an amazingly tame bird was found at Blackhawk Point (Sundell).

Least Bittern: Found in usual south and east locations. A nest was discovered in St. Croix County (Faanes); One individual was found in Burnett County on June 23 (Evrard).

Glossy Ibis: A most unusual occurrence; the last recorded summer season sighting was in Racine in September, 1868. One adult was observed numerous times in Oconto Marsh from June 28 (Gustafson) to July 20 (Erdman and Leroy Lintereur).

Mute Swan: Found in four locations; Iron County (Mary Butterbrodt), two in Marinette County (Lindberg, Lintereur), one in Ozaukee County on June 12 and one in Dodge County on July 21 (Epstein).

Whistling Swan: Found in Oconto Marsh on June 15 (Robbins). Remained in Atkinson Marsh, Brown County, from June 13 through July and was seen by a number of observers (Edwin Cleary and Brother Columban, Trick, Ty and Ida Baumann).

Canada Goose: Two west of Oconto Falls on June 3 were unusual (Tessen). Also found in Dunn County on June 6 (Robbins) where they are seldom reported.

Gadwall: One was present in Burnett County on June 5 (Evrard), found nesting in St. Croix County (Faanes), present in Oconto County (Gustafson, Tessen), one in Marathon County on July 18 (Luepke) and 20 in Brown County on July 21 (Cleary and Columban).

Pintail: A female with six young was discovered in Dane County on June 20 (Robbins) and a nest with five young was found in Oconto County on July 22 (Tessen). Other observations were in Dunn, Polk, Barron, St. Croix, Marathon, Outagamie, Brown, Columbia, Waukesha and Milwaukee Counties.

Green-winged Teal: Three broods were observed in Polk County (Faanes); others were seen in Burnett, Barron, Dunn, St. Croix, Oconto, Marinette, Marathon, Brown, LaCrosse, and Dodge counties.

American Wigeon: Found in Burnett County by Faanes, Robbins and Evrard; in Brown County (Trick), Waukesha County (Tom and Carol Bintz) and Milwaukee County (Tessen).

Northern Shoveler: One was located in Burnett County on June 17 (Evrard), present in Barron Oconto, St. Croix, Brown, LaCrosse and Dane Counties.

Ring-necked Duck: 101 were counted in Burnett County on July 9 (Evrard). Others were present in St. Croix County (Faanes), Dunn County (Robbins, Tessen), Pepin County (Tessen) and Columbia County (Robbins).

Canvasback: Fifteen were present at Wilson Pond, Dunn County, on June 8 (Robbins). Nested in St. Croix County (Faanes) and were also found in Oconto County (Gustafson, Trick, Tessen), two in Pepin County on June 20 (Tessen) and two in Brown County (Trick).

Greater Scaup: Six were identified in Milwaukee on June 12 (Tessen).

Lesser Scaup: Present in Iron County (Butterbrodt), two broods in Polk County (Faanes), 13 remained through the period in St. Croix County (Faanes), Dunn County (Robbins, Faanes), six in Pepin County on June 20 (Faanes), remained in Brown County until June 18 (Trick) and one was present in Manitowoc on July 19 and 31 (Tessen).

Common Goldeneye: Recorded in Iron County (Butterbrodt), nested in Door County where a nest with two young was found on June 15 and a nest with six young was found on July 8 (Trick). Also noted in Milwaukee on June 12 (Epstein).

Bufflehead: One in Burnett County on June 17 is a day later than the previous June record (Robbins and N.R. Stone). A mid-July bird in Brown County, July 16, is unusual (Trick).

Common Merganser: Discovered in Door County on July 21 (D. and J. Haseleu).

Red-breasted Merganser: Found in Door County on June 15 (Trick) and four were in Oneida County on June 21 (Louise Engberg).

Hooded Merganser: Female with 5 young, Bayfield County June 16 (John Dixon)

Turkey Vulture: Farthest north was one in Iron County on June 14 (Butterbrodt).

Northern Goshawk: Observed in Douglas County on June 20 (Faanes), in Barron County (Alta Goff) and one carrying a large brown animal in Oconto County on July 10 (Tessen).

Sharp-shinned Hawk: Most southerly report was the one from Milwaukee on June 2 (Epstein).

Cooper's Hawk: Nested in Barron County (Faanes) and was found in Taylor County (John Fadnes), St. Croix County (Faanes) and in Jackson County on June 9 (Robbins).

Krider's Red-tailed Hawk: Observed twice, last on June 3, near Fish Lake, Burnett County and was described as having almost pure white head and tail — like a small Bald Eagle (Evrard). Previous observations were in 1970 in Columbia County (Dryers) and throughout the summer of 1971 in Burnett County (Stone).

Osprey: Observations were made in Vilas, Burnett, Polk, Barron, St. Croix, Oconto, Brown, Trempealeau, Marathon, Wood, Marquette and Green Lake Counties.

Bald Eagle: Reports came from Iron, Vilas, Burnett, Oneida, Polk, Barron and Taylor Counties.

Merlin (Pigeon Hawk): One was identified in Douglas County on June 21 (Faanes).

Sharp-tailed Grouse: Ten were found in Burnett County on July 14 (Evrard). Found in Sawyer County on June 5 (Robbins).

Common Bobwhite: One was heard whistling north of Grantsburg, Burnett County, on June 18 by Robbins and Stone who know of no recent releases in that area.

King Rail: Out of normal range were the birds found in Oconto on June 28 (Gustafson) and in St. Croix County on June 16 (Faanes).

Yellow Rail: Gustafson found none at Powell Marsh, Vilas County, where they were found in 1973 and 1975.

Semipalmated Plover: Last spring departures were two in Brown County on June 7 (Cleary and Columban) and earliest fall arrivals were in Crex Meadows in July 18 (Faanes).

Piping Plover: One was observed in Douglas County on July 18, at Wisconsin Point (Robbye Johnson). This is the first report from this area since the destruction of the Barker's Island habitat by motorcycles in 1971. Two were also observed on July 30 and 31 in Milwaukee at Jones Island and north of the Coast Guard Station (Gustafson, Epstein).

Black-bellied Plover: Last spring departure was June 15 in Oconto County (Robbins); first fall arrival was July 31, also in Oconto (Tessen).

Ruddy Turnstone: A single report; four were present in Milwaukee on July 31 (Epstein).

Solitary Sandpiper: No spring migrants lingered into the summer period. The first fall arrivals came on July 1 in Waukesha County (Bintz).

Willet: One was observed with a Hudsonian Godwit in Brown County on July 18 (Trick).

Greater Yellowlegs: Late spring migrant in St. Croix County on June 3 (Faanes); a summer straggler in Columbia County on June 20 (Robbins) and an early fall arrival in Waukesha on July 1 (Bintz). On July 7, fall birds showed up in Milwaukee, Oconto, St. Croix Counties

Pectoral Sandpiper: First fall birds were in Waukesha County on July 1 (Bintz).

White-rumped Sandpiper: Four were in Brown County on June 3 and 5 (Trick, Tessen) and one was in Dodge County on June 6 (Tessen).

Baird's Sandpiper: Five late migrants were in Dodge County on June 6 (Tessen). Fall birds had returned to Brown County by July 9 (Trick) four days earlier than the previous record of 1965.

Least Sandpiper: A June 20th observation in Brown County (Trick) is hard to place as spring or fall migrant since it comes midway between the two record dates. Last spring birds were in St. Croix County until June 2 (Faanes) and had returned to Marathon County by July 4 (Luepke).

Dunlin: One individual lingered in Oconto until June 18 (Tessen) and fall birds had returned to Brown County by July 14 (Trick). Fifty were present in Brown County on June 5 (Tessen).

Short-billed Dowitcher: Fall birds arrived on July 7 in Oconto (Tessen) and St. Croix County (Faanes).

Long-billed Dowitcher: Found in St. Croix County on July 12 (Faanes), on July 18 in Crex Meadows (Faanes), in Brown County (Trick) and an injured individual, same date in LaCrosse (Leshar).

Silt Sandpiper: Earliest fall arrival was one in Milwaukee on July 7 (Gustafson).

Semipalmated Sandpiper: Presumed to be spring migrants were those found in Manitowoc on June 20 (Woodcock). Early fall birds were in Outagamie County on July 10 (Tessen).

Western Sandpiper: One was discovered in Calumet County on July 26 (Tessen).

Buff-breasted Sandpiper: One was noted in Fond du Lac County on July 25 by Rockne Knuth who says this is the second time it has appeared in Lakeside Park.

Marbled Godwit: On June 7, one was observed by Cleary and Columban. It was also seen by Erdman and Ty Baumann.

Hudsonian Godwit: Noted in Brown County with the Marbled Godwit on June 7 (Cleary and Columban, Erdman, Baumann). Also seen in Brown County on June 18 (Trick).

Sanderling: Early fall arrivals had reached Douglas County by July 18 when three were present (Johnson).

Wilson's Phalarope: Nested in St. Croix County (Faanes) and a nest with one young was found in Brown County (Trick). July observations were made in Dodge, Burnett, Oconto, Outagamie and LaCrosse Counties.

Northern Phalarope: A late migrant was spotted in St. Croix County on June 2 (Faanes) and on June 6 in Dunn County, one was found at Wilson Pond (Robbins).

Ring-billed Gull: Outside listed range but where they have been reported in previous years were thirty in Oneida County on July 26 and those in LaCrosse County on July 18 (Leshner).

Laughing Gull: Found in five counties; an all-time high. One was watched for two hours in Oconto Marsh on June 28 (Gustafson); one was seen near the Kewaunee Power Plant on July 31 (Tessen); ten on July 19 and five on July 31 in Manitowoc County (Tessen); also seen in Manitowoc by Erdman and Steffen; one in Brown County (Erdman) and three in Milwaukee on June 15 (Epstein).

Bonaparte's Gull: Largest reported concentration was the 700 in Manitowoc County on July 19 (Tessen).

Little Gull: One immature was found on June 28 and three immatures on July 8 in Oconto County (Gustafson). Also seen in Oconto County on July 15 (Robbins) and a immature on June 18 (Tessen). One was seen in LaCrosse County on July 24 (Leshner), one on July 19 and one on July 31 in Manitowoc County (Tessen), two in Milwaukee on July 30 (Epstein) and one in winter plumage same date in Milwaukee (Gustafson).

Forster's Tern: Observed throughout the period in Oconto (Gustafson, Robbins, Tessen). Also found in Marinette County (Lindberg), Brown County (Trick, Tessen), Manitowoc (Woodcock) and two in LaCrosse on July 28 (Leshner).

Common Tern: Largest concentration was 60 in Brown County on July 29 (Cleary and Columban).

Caspian Tern: Three in Oconto County on July 18 (Tessen), one in Brown County on July 10 (Tessen) two in Manitowoc County on July 31 (Tessen) 8 in LaCrosse on July 18 (Leshner) and in Milwaukee on July 7 and 8 there on July 31 (Epstein).

Snowy Owl: One was seen in Brown County by a number of observers including Brother Columban, John Jacobs and Vince Baldry.

Long-eared Owl: One was located in St. Croix County on July 18 (Faanes).

Yellow-bellied Sapsucker: The July 16 observation in Juneau County (Robbins) and that in Vernon County (Viratine Weber) are south of normal summer range.

Western Kingbird: One was present in Vernon County on June 13 (Weber).

Acadian Flycatcher: One in Manitowoc County (Bernie Brouchoud and Woodcock), in Sauk County on July 9 (Robbins), five males in Waukesha County (Bielefeldt) and two at Blackhawk Point, Jefferson County, on June 21 (Sundell).

Alder and Willow Flycatcher: Counties which reported both species present were Polk, St. Croix, Oconto, Manitowoc, Winnebago, Vernon, Ozaukee, Waukesha and Milwaukee.

Olive-sided Flycatcher: Two were present in Milwaukee on June 1 (Epstein) and a male was found in Waukesha County on July 2 (Bielefeldt).

Boreal Chickadee: Observed in Douglas County on June 20 (Faanes).

Tufted Titmouse: Northernmost report was St. Croix County (Faanes).

Red-breasted Nuthatch: A late spring migrant was found in Milwaukee until June 1 (Epstein).

Brown Creeper: Farthest south were the two in Waukesha County on July 6 (Bielefeldt).

Winter Wren: Farthest South were those in Vernon County where there were indications of nesting in June (Epstein) and those seen throughout June in Calumet County (Tessen Dar Tiede).

Carolina Wren: One was singing in Price County on July 17 (Maybelle Hardy), one present in Manitowoc County on June 27 (Brouchoud and Woodcock), and Dane County on July 12 (Robbins) and one at Blackhawk Point on June 21 (Sundell).

Swainson's Thrush: Spring migrants were found in Milwaukee on June 2 (Elmer Strehlow) and in Rock County on June 6 (Ellis). Fall birds were found in Milwaukee on July 23 and 31 (Epstein). A possible summer resident was the one located in Douglas County on June 21 (Faanes).

Gray-cheeked Thrush: A late migrant was recorded in Milwaukee on June 2 (Strehlow).

Blue-gray Gnatcatcher: Farthest north was the observation in St. Croix County (Faanes). Approximately 20 were in Outagamie County on July 21 (Tessen).

- Ruby-crowned Kinglet:** Late June observation in Douglas County (Robbins, Faanes), Sawyer County (Faanes), Iron County (Butterbrodt), Price County (Hardy), Forest County (Bielefeldt) and on June 6 and July 20 in an Outagamie cemetery where it nested two years ago (Tessen).
- White-eyed Vireo:** Two observations; in Price County (Hardy) and one in Manitowoc County on June 21 (Brouchoud and Woodcock).
- Bell's Vireo:** One was singing at Sugar River Bottoms near Albany, Green County, on June 26 (Robbins). Seven were found in Trempealeau County by Faanes who states "the nesting colony habitat on Trempealeau Refuge has been removed in a prairie restoration project". Also found in Rock County on June 11 (Ellis) and at Grand River on June 4 (Donald and Sundell).
- Prothonotary Warbler:** Birds were noted in St. Croix County (Faanes), Buffalo County (Faanes) Outagamie County (Tessen), Jefferson County (Gustafson), Jefferson County where there were three at Blackhawk Point on June 21 (Sundell) and in Rock County (Ellis).
- Worm-eating Warbler:** One was singing near Leland, Sauk County, on July 10 (Robbins and N.R. Barger). This is the first summer report since 1970.
- Brewster's Warbler:** One was noted on June 4 north of West Bend (Donald and Sundell).
- Nashville Warbler:** A migrant lingered in Milwaukee until June 3 (Gustafson). A possible summer resident was the one noted in Door County on July 21 (Haseleu).
- Northern Parula Warbler:** Unexpected was the one singing in Baxter's Hollow, Sauk County on July 9 (Robbins and Barger).
- Cape May Warbler:** At least three males were in Douglas County on June 17 (Robbins). Also noted in Douglas County on June 20 (Faanes).
- Black-throated Blue Warbler:** A late transient was recorded in Milwaukee on June 2 (Epstein).
- Cerulean Warbler:** Farthest north was the male in Polk County on June 30 (Epstein). Also found in Rusk County on June 5 (Robbins).
- Bay-Breasted Warbler:** Late migrants were in Milwaukee on June 3 (Gustafson) and Rusk County on June 5 (Robbins). One was present in Douglas County on June 21 (Faanes).
- Prairie Warbler:** At least one male in Waukesha County Since the May WSO Convention. Noted there on June 22 (Bielefeldt) and near Ottawa Lake Recreation Area on July 6 (Gustafson). One was singing in Jackson County on June 11 (Robbins).
- Northern Waterthrush:** A large concentration in Manitowoc where 30 were estimated to be present and 10 were seen on June 26 (Brouchoud and Woodcock).
- Louisiana Waterthrush:** The observation in St. Croix County was the farthest north (Faanes).
- Kentucky Warbler:** Most northerly record was the one heard singing east of Sprague, Juneau County, on June 11 (Robbins and Guy Baldesarre). Noted also in Vernon County on June 17 (Bielefeldt), three on June 17 and one on June 22 (Epstein) and in Dane County on July 1 (Robbins).
- Connecticut Warbler:** The two singing east of Black River Falls, Jackson County, on June 9 were probably late spring migrants, as was the one in Milwaukee on June 14 (Gustafson). Midsummer reports came from Douglas County (Robbins, Faanes), Iron (Butterbrodt) and Price (Hardy). Robbins and Barger found five singing birds in southern Douglas County on June 17 and four in Burnett County north of Grantsburg on June 18.
- Yellow-breasted Chat:** Dennis Gustafson heard one near Monches Woods, Waukesha County, on June 18 and one on July 10 in Whitnall Park.
- Hooded Warbler:** Two were present again in Manitowoc (Brouchoud and Woodcock). One singing male was found July 9 at the upper end of Baxter's Hollow, Sauk County. Noted in Waukesha County (Bielefeldt) and found nesting there in Lapham Peak Park on July 6 (Gustafson).
- Wilson's Warbler:** Late migrants in Milwaukee on June 2 (Epstein) and on June 3 in Milwaukee (Gustafson) and Manitowoc (Woodcock).
- Orchard Oriole:** Many more observations than usual; two in Trempealeau County on June 7 (Epstein) and noted there on June 15 (Epstein), one in Waupaca County on June 20 (Tessen), one singing east of Necedah, Juneau County, June 11 (Robbins and Baldesarre), a male at LaCrosse on July 11 was last seen on July 25 (Leshner), three males on July 1 in Waukesha County (Bielefeldt), one in Walworth County on June 12 (Tessen). [a nesting was discovered on June 16 and found abandoned on June 19 in Calumet County (Tiede)].
- Evening Grosbeak:** Few observations; nine were present in Iron County on July 6 (Butterbrodt), Vilas County (Linda Thomas), Forest County (Bielefeldt), ten on July 25 in Price County (Hardy).
- Pine Siskin:** Farthest south were two in June in Outagamie County (Marilyn Bowker, fide Tessen) and one at a LaCrosse feeder on June 12 (Leshner). Also noted in Douglas County (Faanes, Johnson) Vilas (Thomas) and Price County (Hardy).

Red Crossbill: Noted in Douglas County on June 17 (Robbins) and June 20 (Faanes), Burnett County on June 18 (Robbins), Sawyer County on June 5 (Robbins) and on June 9 in Jackson County (Robbins).

White-winged Crossbill: Observed on June 17 in Douglas County (Robbins).

LeConte's Sparrow: One in Powell Marsh on June 21 (Gustafson), five singing in Crex Meadows on June 17 (Stone and Robbins) and one in southeastern Jackson County where they have been found previously on June 11 (Robbins).

Lark Sparrow: Robbins found six along Highway 48 west of Grantsburg, Burnett County, repeating his 1975 discovery. One located in Pepin County on June 20 (Tessen).

Clay-colored Sparrow: Unusually far south were the two in Green Lake County on July 25 (Tessen) and two in Waukesha County (Bielefeldt).

White-crowned Sparrow: One report, from Vilas County (Thomas).

1976 OBSERVERS

Marjorie Albrecht, Jim Anderson, Guy Baldesarre, Vince Baldry, N. R. Barger, Tyrus and Ida Baumann, John Bielefeldt, Tom and Carol Bintz, Marilyn Bowker, Bernie Brouchoud, Jeanine Burbach, Mary Butterbrodt, Dave Calder, Edwin Cleary, Brother Columban, Mary Donald, Thomas Ellis, Louise Engberg, Erick Epstein, Tom Erdman, Jim Evvard, Craig Faanes, John Fadnes, Alta Goff, Dennis Gustafson, Maybelle Hardy, Dorothy Harmer, D. and J. Haseleu, John Jacobs, Robbye Johnson, Rockne Knuth, Lyman Lang, Fred Leshar, Harold Lindberg, Leroy Linteur, Ken and Jan Luepke, Mrs. Joseph Mahlum, Kay Minkebig, Sam Robbins, W. Scharf, Clark Schultz, Bill Smith, J. Steffen, N. R. Stone, Elmer Strehlow, Roger Sundell, Daryl Tessen, Linda Thomas, Dar Tiede, Joel Trick, Viratine Weber, John Woodcock.

Possible MacGillivray's X Mourning Warbler Hybrid

A non-typical *Oporornis* was captured and banded near Newburg, Wisconsin on 9 June 1975. This bird showed the general appearance of a Mourning Warbler but had dark lores and prominent white spot on the upper eyelid. The black throat markings were less conspicuous than those of a typical male Mourning Warbler. The throat markings were interrupted by a light yellow area which may be seen as a pale region in the accompanying photograph. The bird was judged to be male on the basis of a protruding cloaca. It was not measured or weighed.

The banding site is at the margin of a Cedar-Tamarach-Ash lowland forest associated with the Cedarburg bog. Mourning Warblers (*Oporornis Philadelphia*) have been regularly captured at this site in June and July since 1964. Two fledglings were banded on 23 July 1967. Other warblers of boreal affinity have been captured here in the past (Biemborn, 1967; 1970). Studies in the Cedarburg Bog, about three miles distant, have located singing male Mourning Warblers during June (Weise, 1973). No nest has been reported at either area.



At least two hypothetical records of the MacGillivray's Warbler (*O. tolmiei*) have been published for Wisconsin (Kemper, 1973; Bielefeldt, 1973). Mourning and MacGillivray's Warblers cannot be separated by plumage alone in the fall, but should be separable by the lack of any eye-ring in the former in the spring. Measurements of the wing and tail can be used if the bird is in the hand. The difference between the two measurements is less than 10 mm in the MacGillivray's greater than 10 mm in the Mourning (Lanyon and Bull, 1967). The two species come into contact as breeding birds in Alberta. Five presumptive hybrids have been reported from that area (Cox, 1973). A probable hybrid MacGillivray's X Mourning Warbler was reported as banded in Kansas on 22 May 1975 (Patti and Myers, 1976). This bird had black lores and a partial black bib with a light area at the chin. Measurements of the wing and tail gave a difference of 10 mm, midway between the two species. Both species might be expected in Kansas during migration, though the MacGillivray's is only an occasional migrant (Goodrich, 1946). The Kansas specimen and the bird I captured are similar, save the latter had less black in the bib.

Wisconsin is far outside the normal breeding range of the MacGillivray's Warbler. Because of the difficulty in separating the two species in the field, it may be that the MacGillivray's is more common in migration than generally supposed. For a hybrid to appear in a breeding population in southeastern Wisconsin is an enigma. Though the bird I captured appears to be a hybrid of the two species, in the absence of measurements of the specimen, identification is uncertain.



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DISTRIBUTION OF WINTER BIRD LIFE IN THE CHICAGO LAND AREA, 1976—1977

By **KARL E. BARTEL**
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Many winters, bird life in the Chicago land area is expanded by birds that should be in the southern climes. This winter is no exception.

This data has been taken from Christmas censuses conducted from December 18, 1976 through January 2, 1977

It was compiled from 17 counts in what is known as the Chicago land area, extending fifty miles from the center of Chicago. The area covers Lake Geneva, Wisconsin to Waukegan, Illinois on the north; Indiana Dunes National Lake shore, and Park Forest, Illinois on the south; Rockford and Joliet, Illinois on the west.

Each count area is approximately fifteen miles in diameter, with no overlapping. There were 128 different kinds of birds; this consisted of species, races and forms. Some 311,388 individual birds were seen. In the following chart is a listing of all the birds that were seen. The birds marked with asterisks (*) are birds not ordinarily found in winter in the Chicago area. An "X" means seen in County Period, but not on Count Day.

THE AREAS INVOLVED AND THE DATES THEY WERE TAKEN

Area Code	Area	Date Taken
A	Chicago Urban	December 18, 1976
B	Indiana Dunes National Lake Shore	December 18, 1976
C	Joliet Will County	December 18, 1976
D	McHenry County	December 18, 1976
E	Bristol Kendall County	December 18, 1976
F	Morton Arboretum Cook and Dupage County	December 19, 1976
G	Maple Park-Moosehart	December 19, 1976
H	Fermilab-Batavia	December 19, 1976
I	Barrington	December 20, 1976
J	Chicago North Shore	December 26, 1976
K	Morris-Wilmington	December 26, 1976
L	Waukegan-Lake County	January 1, 1977
M	Calumet City-Sandridge	January 1, 1977
N	Rockford	January 1, 1977
O	Chicago-Lake Front	January 2, 1977
P	Park Forest-Thorn Creek	January 2, 1977
Q	Lake Geneva, Wisconsin	January 2, 1977

BIRD	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	Total
Common Loon													1					1
Horned Grebe	1																	1
Pied-billed Grebe	1							1			3							5
Great Blue Heron *											1							2
Bl.-cr. Night Heron *												1						1
White Swan			2															2
Canada Goose	52	80		9		1253		1218	315	125	1752	10		226				3358
Snow Goose	2																	2
Snow Goose (blue form)	2													1				3
Mallard	2076	1298	81234	639	3280	1304	1702	1323	1208	10,566	838	892		1142	2000	30	56	29,076
Mallard X Black			12															13
Black Duck	276	58		6	5	109	141	9	62	122	701	18	11	128	1		7	1291
Cadwall	2	1	16				1	1	1	1	1	2	1					17
Pintail	1			1	5					1	1	2						17
Green-winged Teal	3					1				1	1	1						6
Am. Wigeon	2				1	1			2								1	7
N. Shorelark	1														1			2
Wood Duck	5			1	5	1			2		6							23
Redhead	4	5								1	1	1						11
Ring-necked Duck	3																	4
Canvasback	1	2					2				1	11						20
Greater Scaup	1	12									25				2			40
Lesser Scaup	15	121	2			8			68		13	53						280
Com. Goldeneye	157	374		3	5	3	66	6	66	218	86	197	149	23	257			1909
Bufflehead	1	330				1	1		3		80	1						117
Oldsquaw									70		55				17			142
White-cr. Scoter	2																	2
Ruddy Duck	3	1	1								1							9
Hooded Merganser		5									3	2						10
Com. Merganser	1	28	26			3	1		3	1	103	29	190					385
Red-br. Merganser	7	11							18	2	5	106			37			189

Distribution of Winter Bird Life in the Chicago Land Area

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	Total
Woodcock																		1
Sharp-sh. Hawk																		6
Cooper's Hawk																		5
Red-tailed Hawk	7	17	22	27	6	146	14	26	62	19	13	15	13	57	12	2	358	
Red-tailed (Harlan's) Hawk																		1
Red-sh. Hawk	1	1	18															24
Tough-legged Hawk	1																	1
Field Eagle																		2
Marsh Hawk	1																	1
Am. Kestrel	11	26	27	4	7	19	7	16	2	17	7	9	20	2	4	1	16	195
Bobwhite																		25
Ring-neck Pheasant	17	6	38	26	22	95	57	117	108	34	29	19	38	272	70	5	983	9
Gray Partridge																		2
Virginia Rail																		6
Am. Coot	5	10	1		1	5	3	1				6	2				6	140
Killdeer	2	1	1			1	1	1										6
Com. Snipe	1	3	1	2		2	X		2	2	4			2		2	20	2
Glaucous Gull																		1
Iceland Gull																		1
Great Black-b. Gull																		1
Herring Gull	106	275	80	3	3	149	2	3	13	72	390	54	2410		55	109	1044	956
Pink-billed Gull	94	38	35			24	7	8	3	25	10	20	591		100	1	91	11,953
Bonaparte's Gull	74																	2649
Rock Dove	1000	395	1474	1110	279	1069	10000	598	313	824	518	264	710	791	283	25	11,953	50
Mourning Dove	38	204	34	237	174	112	102	168	40	70	171	120	340	559	230	50	2649	1
Budgerigar																		1
Barn Owl																		1
Screach Owl	5	7	3	10	3	4	16		2	13		2	2	4	10	3	114	57
Great Horned Owl	1	3	2	2	3	5	3	8	4	4	3	3	1	9	5	1	1	17
Snowy Owl																		13
Barred Owl																		17

Distribution of Winter Bird Life in the Chicago Land Area

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	Total
Long-eared Owl	1						2	2			1		1				2	9
Short-eared Owl							2											15
Sparrow Owl				1				1										2
Belted Kingfisher	2	5	5	2	3	12	7	4			8		1				3	59
Com. Flicker	1	4	2		1	6	9	10	1	12	5		1			34	13	102
Red-b. Woodpecker	3	14	5	7	9	32	10	13	5	15	7	9	3			58	15	215
Red-b. Woodpecker	1	11	4	20	3	37	11	20	3	12	22	4	2			92	59	450
Yellow-b. Sapsucker *		2	1			1	1	1								1	1	9
Hairy Woodpecker	19	39	5	5	5	33	11	20	4	11	9	7	5			30	19	265
Dusky Woodpecker	36	95	38	41	35	113	50	73	42	99	35	22	29			173	71	1027
Horned Lark		20	64	11	138	30	125	113	21		106					248	136	2092
Blue Jay	51	557	94	173	48	335	90	106	141	103	62	62	84			207	151	2225
Com. Crow	776	238	200	435	1108	878	308	515	577	831	49	196	88			1239	297	8120
Black-c. Chickadee	183	270	84	163	67	482	118	260	233	488	93	103	56			359	115	3230
Tufted Titmouse		185	4	2	1	14	21	18		11	7		13			69	41	390
White-br. Nuthatch	11	130		18	12	23	23	15	10	25	7	12	3			129	25	477
Red-br. Nuthatch		14		2	3	7	1	7	5	6	4	2	1			6	13	71
Brown Creeper	6	4	18	1	1	35	11	9	9	8	29	1				38	5	175
Winter Wren	1	1				3				1						2	1	9
Carolina Wren	1	7	2	1	8	2		1	1	2	3		1			2	2	31
Long-b. Marsh Wren *											2							2
Mockingbird							1											1
Brown Thrasher								1								1		2
Am. Robin	13	3	8	4	8	27	5	4	2	4	5	2	3			6	11	105
Hermit Thrush *	1											1					2	2
Bl. Bluebird *		1				1												
Golden-cr. Kinglet	3	4	1	3	46	12		41	3	2						4	7	132
Ruby-cr. Kinglet		5	1			1				2							1	10
Cedar Waxwing	11	85			1	103	8	4	71	4			3				27	360
Northern Shrike	3	1	1	1	3	1	2	3	3	1	1	1				2	1	22
Loggerhead Shrike			2		1				1									4

Distribution of Winter Bird Life in the Chicago Land Area

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	Total
Starling	11,000	812	1776	1064	944	1165	1100	1061	958	12000	1589	315	3709	1	12,597	2057	297	53,054
Yellow-cr. Warbler *	3					1	1	1	1	1	1	1						11
House Sparrow	125,000	1168	673	1514	981	640	1100	121	995	14000	1066	194	706		3174	1214	599	153,445
E. Meadowlark			1	4	7	13	4											32
W. Meadowlark															24			24
Yellow-sh. Blackbird *		2																2
Red-winged Blackbird	8	21	274	52	1	4	15	204	114		6	2	37				5	773
Rusty Blackbird *				4				1				1					2	9
Brewer's Blackbird *	1																1	2
Com. Grackle	2	9	265	9	12	226	31	4	13	4		4	11		289	11	2	892
Brown-headed Cuckoo	1	3	72	4	43	3	5		3	1		2	16		4	3	4	169
Cardinal	135	205	101	57	31	314	71	181	127	207	66	38	75		231	134	37	2060
Evening Grosbeak										1							1	2
Purple Finch	2	37	19	52		110	16	27	35	19	9	5			22	25	30	408
Com. Redpoll	5																	5
Pine Siskin	1					73	X	2	34			14						137
Am. Goldfinch	33	329	148	115	18	401	60	251	110	128	20	96	232		114	235	48	2668
Red Crossbill						6												6
Rufous-sided Towhee	1	10				4	3	5		2					2		1	28
Rufous-sided Towhee (Western race)									1		1							2
Veery Sparrow																		
Dark-eyed (Glaucous) Junco	307	666	744	493	275	991	606	763	1777	608	539	366	598		1181	637	298	10,849
Dark-eyed (Oregon) Junco						1							2			3		6
Tree Sparrow	20	767	770	571	248	848	142	719	1042	205	481	204	357		597	1065	66	8122
Chipping Sparrow *		1																1
Field Sparrow *		20	15	6	6	1	15		2	17	2				3			87
Harris' Sparrow *	1																	
White-cr. Sparrow	X	11	1		1	3		4	1		13	1	7			1		2
White-th. Sparrow	4	21	4	15	5	16	6	11	20	16	41		5			6	3	173
Fox Sparrow *						6	1	4	1	3	4		8			2		29
Lincoln's Sparrow *						2												2

Distribution of Winter Bird Life in the Chicago Land Area

	2	8	8	30	7	58	1	45	29	3	3	1	21	1	23	11	2	251
House Sparrow	15	36	23	16	26	110	22	70	23	13	30	13	5		108	12	2	640
Long Sparrow			114			22	57			3	130				19	2		407
Midland Longspur	11	64	74		79		35								211	65		569
Snow Bunting																		
OVERALL TOTAL SPECIES SEEN 128																		
TOTAL SPECIES PER EACH GROUP	70	82	55	50	117	75	66	60	51	65	64	62	56		57	9	54	
TOTAL INDIVIDUALS FOR EACH GROUP	144,541	8,605	6,456	5,340	13,315	8,177	7,126	31,186	18,577	3,959	18,859	11,697			24,873	2,470	1,939	

Distribution of Winter Bird Life in the Chicago Land Area

Book Review

The Web of Adaptation

Bird Studies in the American Tropics, David W. Snow, Quadrangle/The New York Times Book Co., 10 East 53rd St., New York, N.Y. 10022, 176 pp., \$8.95.

Dr. Snow, Head of Ornithology at the British Museum of Natural History and holder of other impressive credits, presents a thoughtful discussion of the evolution and adaptive development of fruit-eating birds of the American tropics. His hypotheses are richly supported by field studies he and his wife Barbara made of several of the Manakins and Cotingas, among other species, in Trinidad and parts of Central and South America.

At first blush this might look like a book for experts in tropical ornithology, or for those lucky birders who get to go and see. Not so, though certainly both groups would find it fascinating. This is a book for anyone with a keen curiosity about how things come to be and how things change and interrelate in the natural world. And it is written in a charming easy-going, non-technical style, with no sacrifice at all to scientific accuracy. Anecdotes about conditions on the field expeditions enhance the fun.

Among the consequences to some bird families of an exclusive fruit diet, we learn, are extreme sexual dimorphism and lek behavior. The males are freed by the ready availability of food to develop fantastic plumages and adornments and to spend most of their time at communal display grounds, trying to attract the drab females, which in turn handle all of the nesting responsibilities. The ludicrous appearance of the Three-wattled Bellbird, or the duet courtship dance of the Blue-backed Manakin (two males cooperate in synchronized display to attract a female) illustrates the amazing diversity of specialization.

There are other apparent consequences of this close "partnership" (the birds get the fruit; the trees get their seeds dispersed) between bird and tree, affecting all aspects of the reproductive cycle and indeed all aspects of avian life, and Dr. Snow explores many of these in an attempt to begin to understand the elaborate "web of adaptation" in the tropical forest.

Linda L. Safir

Wintering Bald Eagle

Wintering of the Migrant Bald Eagle in the Lower 48 States, Donald A. Spencer, available from: National Agricultural Chemicals Association, 1155 15th St., N.W., Washington, D.C. 20005, 170 pp.

Dr. Spencer has compiled this paper-bound 1976 inventory of wintering Bald Eagles from information made available by federal and state agencies, local groups, bird counts, banding and migration records, and intensive research studies, and indeed there is a great deal of information here on the winter habits and populations of the birds, by state and province. Anyone studying or interested in off-season eagles will find this a useful source book.

It would seem that the Bald Eagle is a wonderfully adaptive bird in winter, feeding on whatever is available, including carrion at times; passing its time close to man and man's contrivances, even benefiting from them (dams, hydroelectric plants, warm water effluents); and roosting communally in whatever protective trees are available. "Red Carpet Measures" taken by various agencies in recent years to protect the wintering eagles are described, and an encouraging picture of their success given. It is to be hoped, however, that the casual reader will not get an overly optimistic impression of the Bald Eagle's status based on this report, and it is to be hoped that biologists who are already aware of the eagle's off-season adaptability will continue to concern themselves with the bird's on-season inadaptability, its shyness and desperate need for seclusion and nesting habitat preservation. It is in the eagle's reproductive success that its real future lies.

Linda L. Safir

Once Around the Sun

A Door County Journal (by Roy Lukes, illus. by Charlotte Lukes. Pine Street Press, Baileys Harbor, Wi., 1976. \$8.95).

This book is pure delight. Attempts to just scan it fail -- one is lured into adventure: an escape into the out-of-doors, an introduction to the commonplace yet so often unseen, a challenge to ear.

Once Around the Sun is based on personal experience -- in a blind or at a backyard feeder; with a class of school children or with Ridges visitors. There are a wideranging series of natural history vignettes primarily of Door County, from Iceland moss and wild carrot, to the "vagrant aristocrat" Bohemian Waxwing and spunky red squirrel. Roy's words and Charlotte's superbly drawn pencil sketches express a sensitivity, a lighthearted appreciation, an exhilaration in their relationship with the world of nature throughout the year. An occasional episode takes us farther afield, beyond Door County -- like the time in the Army when Roy heard the first Scissor-tailed Flycatcher of the spring performing his flight **behind** him as he was standing at attention!

Not only are there extensive personal observations and experiences, but also skillfully interwoven snatches of historical background (swan skins sold by Hudson's Bay Company), quotes from literature (Shakespeare on the eye of a toad; "Sweet are the uses of adversity, which like the toad, ugly and venomous, wears yet a precious jewel in his head."), findings of other natural scientists (**one** species of mosquito, and **only** this one, pollinates the bluntleaf orchid).

And throughout, a constant reminder in the vein of Leopold: that we human beings belong to communities of plants and animals. "Orchids and primroses, Ruffed Grouse and Wood Thrushes cannot compete with man. It is we who must become part of their environments."

Once Around the Sun is a book for both the beginner and advanced student of the out-of-doors. There is a wealth of information here, and it's retrievable, for the book is indexed! And it will be a stimulus for everyone who is eager to learn about the world around us.

Ruth L. Hine
June 29, 1977

That Robin -- HECTOR

By Evelyn Derouin

June, 1963. It was early evening when I rescued the sparsley feathered baby robin from the neighbor's cat and took it into my home. The little thing lay warm and limp in my hand, eyes closed, but apparently uninjured. Hoping it might survive, I put him in a small box, covered this with a cloth and placed it in a warm spot for the night.

Early the next morning, I slowly lifted the flannel, really expecting a dead bird, but at my touch the cloth fairly exploded into a fluttering of wings and a wide open bill greeted me with a noisy clamor. There was no mistaking his desire for food. Canned dog foods would have been such an easy solution, but as they were not then available, I concocted a soft mixture of hamburger, corn meal and milk. As I placed small balls of this into his open bill, he ate as if he would never get enough. He had no fear of me and after each gulp would shake himself and demand more.

At breakfast time my husband, our one son at home, and our dachshund, Fred, made the little fellow's acquaintance. My husband dubbed him "Hector", and "Heck" he became. The next few days I was forced to devote almost all of my time to Heck. He chirped and demanded, he ate and ate and he began to feather out and to grow. Neighborhood children brought worms and other tidbits.

The original box was now discarded for a larger cardboard carton. This I learned to line with several layers of newspaper cut to size. Removal of the top layer as necessary facilitated the task of keeping the box clean.

After a couple weeks Heck had developed into a well-feathered, bright little robin. His pale breast was now darkly spotted. His tail feathers were yet short but he could perch on the edge of the box and fly out. He made himself objectionable in the evening as he preferred the lighted living room to the dark kitchen. When we learned to cover his box at night, he was cooperative and would settle down to sleep.

At about this time we learned everything was not all right with Heck. He hopped and ran with a sidewise swinging gait. An interested medical doctor who made a hobby of bird watching, opinioned that as Heck's wings developed they would compensate for what seemed to be a weak leg. This was the case, and later we were able to determine the trouble as being in the

toes of the left foot which curled under and lacked grasping power. We decided he would be able to live a normal life.

Our objective was not to raise a bird in confinement but rather to encourage him to fend for himself and soar away. Consequently, I began putting Heck outside but as yet confined him to Fred's pen or our fenced garden. His first job was to learn to search out and pick up his own food. Entirely dependent upon us at first, he would sit and call for us to come and drop food into his mouth. We now attempted to get him to pick up worms laid before him. It was a slow process but one day after being left alone an hour he began to pick listlessly at ants and gradually thereafter he recognized movements of worms placed before him. In our garden he got the feel of the soil and started to dig around and pick insects from the leaves. Whereas before he had just sat and called for us, he now spent much quiet time exploring and finding food for himself. However, if we allowed the back door to slam, out he would come from under the pieplant or a bean bush, swinging from side to side with his funny little gait, and make for the corner nearest the house looking for a handout. Up to this time we had returned him to his box each night.

He could fly short distances now and began to leave the fenced areas to visit a pan of water we had placed in the back yard for all the birds. Several times a day he would visit this pan and splash the water into a foam. The day he chased another young robin from the pan, I knew he would make it.

One day as I approached the garden he flew onto my arm and then kept on going to land in a small tree. There he stayed and no amount of coaxing could bring him down. He had tasted freedom and liked it. Instinct, however, must have told him safety was with us for later he flew to a perch nearer our house. Before going to bed we checked to see how he was faring. Shining a light up through the branches, we located Heck swaying in the wind. A sleepy chirp came down to us. It was Heck's first night out.

After this he did very well for himself. He was spoiled, of course, and would perch on the posts that held Fred's pen outside the kitchen window. There he would sit and call until one of us took pity on him and went out with food. Having eaten he would take off, only to return a little later. He would still fly to our arm or shoulder and let us touch him.

At this time we were gone for a week. Upon our return Heck was glad to see us but we noted our relationship was changing; he was more independent, less friendly, a beautifully feathered, fine bird. His bad foot did not hinder him.

It was nearing Fall and Heck seemed pressured by urges and desires. Instinct told him it was time to be gone, yet we were his main companionship. His own kind shunned him. He was becoming wary of us, too, and would veer away when we tried to run our hands over his back. He was mature and our close friendship was coming to an end. One day my husband reported he had spied Heck pecking at twigs and grasses and we joked that perhaps we had mistaken his sex. August came and birds were congregating in Wisconsin for migration. Soon Heck disappeared. We decided he had joined a group and left for the winter.

1964 -- This spring we peered at every robin, daring to hope Heck was back for we seemed to recognize a familiar call. One day a light colored robin came to rest on a post of the dog pen. At once both my husband and I became aware of the bird's crippled food plainly outlined on the wood. Heck had weathered the winter in some unknown spot and returned to us. He took bits of bread and a strawberry, but would not come close. He continued to stay around our yard and suddenly began nest building. Yes, our suspicions about Heck's sex were confirmed; Heck was indeed a "she" and from now on it is only fair to refer to her as such. She had snared a big bright colored mate and they proceeded to raise three speckled babies. Heck was a wonderful mother. The little ones learned to hunt for food in our back yard and made full use of the old water pan. Fall came, and Heck and her family disappeared.

1965 -- This spring we again did robin watching. There were so many this year and no fence post for Heck to perch upon to greet us for our poor Fred was gone and the pen dismantled. We had about decided we would never again be absolutely sure of Heck's presence when one day a robin flew onto our picnic table and stood for a time arranging bits of bread in her bill. We were able to observe her closely, long enough for us to ascertain that "she of the crooked foot" had indeed returned. She was feeding young, for after gathering all the crumbs she could, away she flew to a neighboring tree. We hoped the babies would lead a charmed life for Heck's sake.

July 5 -- While having a picnic in our yard, Heck came, accepted a handout and flew, not away but onto a wire above us. Here, perched together, were two speckled little robins whom she had just brought "home". For the next few weeks we enjoyed watching Heck care for these little ones. We did not recognize her mate as the one of the year before. Perhaps he had not been as fortunate on his travels as she.

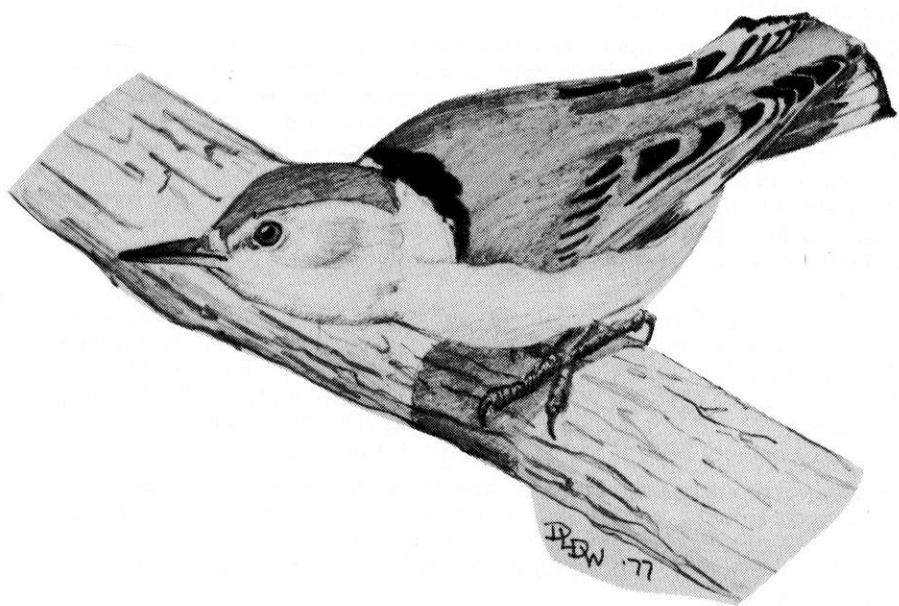
August -- The little birds are on their own but Heck stayed around a little longer, sunning herself and taking life a little easier as every mother should now and then. Soon she too disappeared and we could only hope, as we had previously, she would have a safe trip south and return again in the spring.

1966 -- Unfortunately, this year we moved to another part of this city before time for Heck to return. We never had any knowledge of whether she came back to our former home and hers. We could only hope the new owners liked birds, that they would have a bird bath and leave a few morsels of the food Heck loved.

1977 -- Since our love affair with Heck we have raised several birds, including robins. We enjoyed them all. Still none has ever taken the place in our thoughts of the little bird we came to know so well at our former home.

1807 Moholt Drive
Eau Claire, Wis.

Letters to The Editor



Dear Dr. Kemper;

"I saw a food transfer today (Feb. 3, 1977) with White-breasted Nuthatches. Both were working on bark of Box Elder. The one found what looked to be a larva and immediately came down the tree to give it to the other, who promptly accepted it and flew away with it, leaving the 'finder' behind working on bark. First we have seen the two together."

Deann De La Rande Wilde
Belleville, Wis. 53508

Dear Dr. Kemper,

On June 24, I received a call from Mrs. Pat Huer of Rural Pittsville that she had two Screech Owls that her husband had brought home. He had found them while clearing land for a produce farmer south of Nekoosa. This morning I went to pick up the owls and found to my surprise that they were Saw Whet Owls in juvenile plumage. The little owls appeared to be in a good state of condition excepting that one had a little vane left on the flight feathers of both wings. It seems that (after checking out the circumstances) Mr. Huer had been clearing a piece of land in section 13 of the Town of Armenia in Juneau County. When he threw a felled tree onto the fire, five little owls came out and one fell in the fire and one made it over the fire pile. He quickly rescued the fire bird and said that the others had flown away, so he took the two home.

We made a trip to the area with the two owls in the afternoon to see if we could locate any of the other birds and leave the two we had and let the parent birds maintain their duty of raising and caring for the young. With me at the time were my wife Mary and Ken and Jan Luepke of Spencer. When we reached the area and found that the whole section had been leveled, it was apparent that we would have to care for the Saw Whets and get them back into the air. It is apparent that we will have to keep them for a couple of months to accomplish this task. We have a federal Special Purpose Permit #PRT 2-1836-TW for this very purpose.

Since I previously reported a freshly road killed Saw Whet in the Pigeon some time ago and we had caught and banded an adult in May 13, 1977, it appears that the Saw Whet may be more of a common breeder in the central part of the state than previously assumed. On several occasions throughout the past years, I have seen small owls that I had thought to be Screech Owls at night. I wonder how many may have been Saw Whets.

Don and Mary Follen, Sr.

Ken and Jan Luepke
Arpin, Wis. 54410

Dr. Kemper - I think we need a lot more serious field study on Wis. birds

Don Follen

Dear Dr. Kemper;

Jim Scheunemann told me of an interesting observation he made on June 21 at 5:30 in the morning. Apparently a female Red-winged BB had become a highway fatality on Co. Trk. E 3/4 miles N. of Arpin. He said that he observed a male Red Winged BB tugging and pulling on the dead female. It would fly up or walk to the edge of the road and then try again. Jim said that he watched the bird for about fifteen minutes before

proceeding. A most curious observation. Have you any other reports of such a behavior? Certainly would appear to depict a rather strong pair bonding if only seasonal.

Sincerely,

Don Follen
Arpin, Wis. 54410

[Ed. Note: Yes, I have. Interestingly, I saw similar behavior by a Barn Swallow south of Jim Falls, Wis. on July 11, 1977 on a black top road. The bird did not tug or pull at its mate, but it kept returning to its mate which lay dead on the road.]

A Comprehensive bibliography of the North and South American martins (**Progne spp.**) is currently in preparation. It will include all papers dealing solely or partly with martins, except local annotated checklists. Authors wishing to have material included should send an abstract or reprint to Charles R. Brown, Box 1309, Austin College, Sherman, Texas 75090.

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