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A MAGAZINE OF WISCONSIN BIRD STUDY



The Passenger Pigeon



Summer 1966

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RED-TAILED HAWK
PHOTO BY JACK A. ROUBA

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WISCONSIN'S SUMMER BIRD COUNT: 1961—1965

By SAM ROBBINS

During the past five years Wisconsin ornithologists have logged 2,224 man-hours in an attempt to measure the constancies and the variations of summer bird populations throughout the state. In 1961 the project began with 29 separate counts; this grew to 56 counts in 1962, 46 counts in 1963, 72 counts in 1964, and 56 counts in 1965. The areas have been well spread out through the state, sampling the bird life in 43 counties.

This has been a pioneer project. So far as we know, no other state had previously attempted any large scale cooperative censusing of its breeding birds. There were no tried-and-true methods to use as guidelines. Thus, observers were encouraged to census their areas in varied ways. Some chose to cover a farm on foot; some walked a chosen series of roads of limited mileage; some traveled by car, making three-minute listening stops every $\frac{1}{4}$ -mile or $\frac{1}{2}$ -mile; some traveled by boat to some of the islands in Green Bay and censused them; some sampled miles of Wisconsin's northern rivers by canoe; one party attempted coverage of Beaver Dam Lake by canoe, but traded in the boat for hip boots when the lake nearly dried up; one party worked suburban Milwaukee areas on horseback.

The project was planned to take full advantage of the song period of most breeding birds, after the completion of the spring migration. At first the project dates were set between June 15 and 25, but this was subsequently expanded to a June 10-30 period. The hours from 4:00 to 10:00 a. m. were suggested and nearly all counts conformed to this.

Summer Range Revisions

One of the obvious benefits of the project has been the stimulation of added field work. Before the cooperative count was inaugurated, little time was spent afield in June by most observers; once the spring migration was finished, many binoculars were laid away. By getting more observers into the field in June, the count has led to some observations that help refine more precisely the probable breeding range of a number of species.

Owen Gromme once remarked to the writer (personal correspondence): "A bird book is often out of date even before it is published." One sees evidence of this when one compares some summer bird count data with the range maps in Gromme's *Birds of Wisconsin*, which is the most recent published effort to describe the summer ranges of Wisconsin birds. Here are 35 species that have been recorded one or more times on summer counts outside the summer range described on Gromme's maps:

Green Heron: Reported at Ogema in 1962, 1964 and 1965; seen at Brule in 1964 and 1965; both locations are somewhat north of the previously described range limits.

Canada Goose: By the time of the publication of **Birds of Wisconsin**, efforts to use domestic birds to induce wild birds to remain and nest in Wisconsin had been successful at several points in northern and central Wisconsin. Observations on counts at Racine in 1964 and 1965 indicate that a similar effort in that area is succeeding.

Broad-winged Hawk: Gromme's map shows the summer range to cover all but the southern and eastern tiers of counties; several count observations increase the probability that this species may occasionally be found in summer even in the most southern and eastern areas: observed in Dousman and Fort Atkinson in 1963, and at Racine and Washington Island in 1964.

Rough-legged Hawk: This bird was not "supposed to be" in Wisconsin in summer, according to either **Birds of Wisconsin** or the A.O.U. **Checklist**; but it was reliably reported from Shiocton (1961) and Appleton (1963).

Ferruginous Hawk: A carefully documented sighting of this species on Washington Island (1965) is perhaps the most unusual record turned up in any of the Summer Bird Counts.

Pheasant: Reported at Grantsburg from 1962 through 1964, and at Superior from 1963 through 1965.

Sandhill Crane: The presence of two birds in Fort Atkinson in 1962 and one near Racine in 1965 is surprising. Unfortunately, the Fort Atkinson count was not repeated in succeeding years, so it is uncertain whether or not this is an established area used by this species each year.

Yellow Rail: The recording of this mysterious, elusive bird in the Grantsburg area in 1962 suggests the possibility that another little yellow dot might profitably be added to Gromme's map.

Wilson's' Phalarope: The count observations in the Appleton and Green Bay regions in 1962 fall barely within described territory; a Washington Island observation in 1963 falls barely outside the range. It is worthy of note that observations were made "during the count period" at Grantsburg in 1963 and at Superior in 1964, both locations far north and west of the described range.

Ring-billed Gull: The presence of this bird at Racine in sizable numbers (160 in 1963, 190 in 1964, 40 in 1965) suggests the possibility that this species may be a summer resident all along Lake Michigan. While these may not be breeding birds, they are probably resident all summer.

Common Tern: The map in **Birds of Wisconsin** fails to show the Lake Superior shore as part of the summer range; but the Superior count tallies 15 birds in 1963 and 14 in 1964.

Pileated Woodpecker: Sturgeon Bay sightings in 1961, 1962, 1964 and 1965, and an Appleton report in 1964, are slightly outside the described summer range. Far outside the normal range is a sighting at Saukville in 1962, but since continued coverage in succeeding years failed to bring a repeat of this observation, it cannot be accepted as evidence of actual range extension.

Red-bellied Woodpecker: Gromme shows the winter range to be somewhat more extensive than the summer range; count observations from Appleton and Grantsburg suggest that this bird may be consolidating its winter gains into permanent range.

Western Kingbird: While the mapped range is restricted to southeastern Wisconsin, the only summer count observation comes from far to the west at Hudson, where birds were reported in 1964 and 1965, with a nest subsequently being discovered in 1965.

Acadian Flycatcher: Isolated observations were made at Two Rivers in 1961, and at Hudson and Washington Island in 1963. These are north of the described range, but since the birds were not found in succeeding years, no conclusions about range extension can be drawn.

Rough-winged Swallow: It would appear that the northern summer range has now extended into suitable habitat in all—or nearly all—of the state. Sturgeon Bay reports them for five consecutive years; Washington Island counts show small numbers for three of the past four years; at Ogema the species is reported for three out of four years; Superior had a few in 1963 and 1964, missing in 1965.

Boreal Chickadee: Falling within the limited mapped summer range are reports from Hiles and Three Lakes; falling somewhat to the west of the limit is the Ogema region, which produced individuals in 1962, 1963 and 1964.

Brown Creeper: Falling far to the south of the known nesting range are a 1962 observation at Dousman and a 1964 note from Wyalusing. The Dousman bird did not repeat in succeeding years. The Wyalusing area was not censused in 1965.

Bewick's Wren: Hudson is well to the north of the mapped range limit. While the bird on the 1961 Hudson count did not repeat in succeeding years, the species has been found each succeeding year within a mile of the count area.

Loggerhead Shrike: A bird at Grantsburg in 1964 was somewhat north of the known range.

Ruby-crowned Kinglet: Birds found at Brule (1962-1964) and at Superior (1965) fit the range described in Gromme's volume. The significant fact of an observation at Three Lakes in 1964 was not that it was on the fringe of the mapped summer range, but that it represented the first known nesting record for the state (see **1965 Passenger Pigeon 66**).

Bell's Vireo: While the counts mark the disappearance of birds from the Madison area (noted in 1961 and 1962, noted during the count period in 1963, absent in 1964 and 1965), a new discovery was made at Blanchardville in 1965.

Yellow-throated Vireo: The presence of birds at Ogema in 1962, 1964 and 1965 suggests that the yellow line on Gromme's map may need to be nudged northward.

Cape May Warbler: It is unfortunate that the Hiles count has not been repeated each year. It would be interesting to know if the 1962 observation might be repeated, and warrant at least a yellow dot on Gromme's map.

Cerulean Warbler: North of the mapped range limit was a Sturgeon Bay bird in 1961—perhaps an extra-limital wanderer, since it did not repeat in succeeding years. But birds were noted in Shiocton in 1962

1963 and 1964, and at Sarena in 1964 and 1965. These would appear to be bona fide range extensions.

Palm Warbler: This rare species was noted at Three Lakes in 1962 and 1964, a bit east of the mapped range.

Louisiana Waterthrush: Southeastern Wisconsin does not have much habitat favorable for this species. But 1963 observations at Racine and Ives Grove (Racine county) suggest that in those few areas where habitat is acceptable, the southeastern area deserves to be listed within the expected summer range.

Kentucky Warbler: Observations at Madison (1961), Viroqua (1961), Verona (1962, 1964, 1965) and Dousman (1964) suggest this species occasionally wanders farther from the Mississippi and Wisconsin Rivers than Gromme's map would indicate.

Evening Grosbeak: With the recent establishment of nesting records for northwestern and northeastern Wisconsin (see **1965 Passenger Pigeon 66-67**), it is not surprising that this bird turned up on the Brule count in 1965 (absent 1962-1964).

Rusty Blackbird: While not known as a nesting species in the state, six birds were carefully identified on the Loretta count in suitable habitat in 1961. We wonder what further developments might have been noted, had this count been repeated in subsequent years.

White-winged Crossbill: Three consecutive years of recording at Brule (1963-1965) suggest the plausibility of a little western nudge for the summer range.

Henslow's Sparrow: Well to the northwest of the prescribed range is Hudson, where birds were noted in 1961, 1962, 1963 and 1965.

White-crowned Sparrow: In view of there being no previous summer record for the state, it came as a real surprise to find two birds on Plum Island, Door county, on the 1964 count. The birds did not repeat in 1965.

Field Sparrow: Found regularly at Grantsburg and on Washington Island, a mild northern extension of the range as indicated in **Birds of Wisconsin**.

Lincoln's Sparrow: Noted at Hiles and Three Lakes both in 1962 and 1964. Perhaps it is only a question of time before this will be established as a breeding species for the state.

It is much more difficult to be sure when range contracts than when it expands. The Common Loon, for instance, is pictured in **Birds of Wisconsin** as having summer range throughout the entire state. Yet on the summer bird counts it is reported only from Washington Island, Manitowish Waters, Armstrong Creek, Hiles, Three Lakes, Saint Germain, Sarena and Grantsburg—all within the two northernmost tiers of counties. Does this mean that the Loon no longer spends the summer in the southern half of the state. Possibly yes. But because of the habitat requirements of the bird, and the realization that none of the summer counts in the southern half of the state included the kind of habitat required, no definite conclusion is possible.

The Screech Owl is depicted as having summer range blanketing the entire state. The summer bird counts list the species only at Black Earth, Poynette, Oshkosh, Dousman, Monterey, Sturtevant, Racine and

Kenosha—all concentrated in the southeastern quarter of Wisconsin. But before jumping to any conclusion that the summer range is rapidly contracting, one must remember that the bird is often silent and difficult to detect, and that very few counts included pre-dawn listening hours when the bird is most likely to be heard.

Keeping in mind these limitations, and the tentative nature that must accompany any indications of range reduction, we nevertheless offer these trends as worthy of future watching:

Double-crested Cormorant: Single birds were noted in 1962 in the Washington Island and Grantsburg areas, where colonies once existed. Although the counts have been repeated each year since then, no birds of this species have been reported. Gromme's map, showing the entire state within the breeding range, may reflect the pattern of former years, but it looks out of date now.

Yellow-bellied Sapsucker: It may be significant that several counts included wooded habitat in the southern tiers of counties, without recording this species. While the **Birds of Wisconsin** map describes the breeding range covering the entire state, the fact that there were southern Wisconsin observations only from counts at Viroqua and Poynette suggests the possibility that this species can no longer be expected from the southern two tiers of counties in summer.

Yellow-bellied Flycatcher: Summer count sightings were only from Brule, Clam Lake, Ogemaw and Hiles, all in the northern two tiers of counties. The mapped summer range, encompassing the entire northern half of the state, may need some contracting.

Nashville Warbler: Reported frequently from counts in Douglas, Ashland, Vilas, Oneida, Forest, Marinette and Door counties. But outside of northern Wisconsin, it was noted only at Shiocton. Should the state's breeding range be assumed to cover only the northern half of Wisconsin now?

Northern Waterthrush: There is similar doubt that the entire state, as mapped in Gromme's work, remains as breeding territory for this species. If a diagonal line were drawn between Douglas and Ozaukee counties, one would locate all eight areas of summer count sightings east of this line.

Dickcissel: If this species were to blanket the entire state, as indicated on the **Birds of Wisconsin** map, it should have done so in the 1964 explosion. But the northernmost summer count sightings were at Grantsburg, Chippewa Falls, Shiocton and Washington Island.

Grasshopper Sparrow: Frequently reported on counts in southern and central counties, but missing on counts north of Burnett, Outagamie and Brown counties, giving rise to doubts about this species actually reaching the northernmost counties, as indicated on Gromme's map.

Clay-colored Sparrow: Summer count data also raise questions about this species being statewide in summer range. Reported on counts in twelve areas from Wisconsin Rapids and Stevens Point north; south of these cities there is but one isolated observation at Pardeeville.

White-throated Sparrow: While the mapped summer range appears to blanket all but the southern third of the state, summer count data suggests a range restricted to no more than the northern third. Seventeen

of the 18 count areas reporting this species were located in the northern two tiers of counties; the 18th area represented a straggler at Williams Bay that was far outside its expected territory.

Factors Influencing Population Fluctuation

When the summer bird count began in 1961, a major purpose was the measurement of populations of the more common species in order to determine what changes might occur over a period of years. Participants were urged to repeat their census as precisely as possible each year. If the road transect method was used, observers were to start at the same spot at the same hour, and conclude at the same spot at the same hour. If an acreage was to be covered on foot, the same acreage should be worked each year in the same amount of time. Then, if enough counts could be continued for several years to give a sizable and representative sample, an accurate estimate could be made about which species might be increasing, which may be decreasing, and which continue with little marked change.

The evidence amassed by count participants to date indicates that there are several factors that can complicate any simple statistical analysis of numbers of birds reported. Some factors have to do with changes in land use, some with changes in weather, some with the progress of the nesting cycle at the time the particular counts are taken. Each of these factors deserve comment.

Habitat Change: Drastic changes in water levels show a pronounced effect on bird life. This is vividly shown at Beaver Dam Lake in Waukesha county, where a 25-acre census was conducted in 1961, 1963, 1964 and 1965. During 1961 and 1963 there was sufficient water to conduct the count by canoe; in 1964 the water area had been reduced 95%, and in 1965 the water was practically gone. Note some of the ensuing changes (Table 1):

Table 1. Changes at Beaver Dam Lake.

	1961	1963	1964	1965
Pied-billed Grebe	25	9	0	0
Mallard	6	5	14	10
Blue-winged Teal	6	20	1	4
Shoveler	4	14	0	0
Ring-necked Duck	5	2	0	0
Ruddy Duck	4	5	0	0
Coot	200	30	0	0
Killdeer	0	2	16	4
Black Tern	85	150	8	22
Long-billed Marsh Wren	3	10	1	2
Common Yellowthroat	0	1	7	7
Bobolink	0	0	2	6
Yellow-headed Blackbird	15	60	0	2
Swamp Sparrow	0	1	4	17
Song Sparrow	0	2	18	13

Low water levels also affected counts at Racine and River Hills in 1963, Appleton and Dousman in 1964, and Eagle in 1965.

The normal process of rotation of crops can affect summer bird count data. These striking changes (Table 2) showed up at Ixonia (Jefferson county) in the four years this count was taken:

Table 2. Changes at Ixonia.

	1961	1962	1963	1964
Common Yellowthroat	4	5	18	30
Bobolink	3	0	33	55
Savannah Sparrow	2	2	37	13
Song Sparrow	36	45	18	22

The territory covered was the same; the difference was due to a change from cornfields to grain and pasture land.

The changeover from country to residential region is bound to have its effect on bird life. For the past three years a count has been taken near Ives Grove (Racine county) in just such an area. In this 350-acre tract there was little building in 1963, substantially more in 1964, and by 1965 the number of residents has doubled. Table 3 shows some drop-offs that have been detected.

Table 3. Changes at Ives Grove.

	1963	1964	1965
Wood Pewee	19	8	9
Crow	66	18	19
Catbird	25	8	4
Robin	132	8	6
Vesper Sparrow	21	2	3
Chipping Sparrow	14	3	6
Field Sparrow	34	5	14
Song Sparrow	40	29	16

In the count territory at Monterey, some woods were removed in 1962. Some hemlocks were removed in the Ogema count area in 1963. On a Viroqua transect, roadside brush had been removed in some areas in 1963 and 1965. In each case the count results were affected only slightly, but if such removals were done on a major scale, they would certainly have a telling effect on totals of certain species of birds.

Weather Change: Variations in temperature, wind, rain and fog are bound to affect bird song and activity. For instance, Prof. Bernard's Superior count has produced total swallow counts (all six species) of 72 in 1963, 60 in 1964, and 23 in 1965. But the starting temperature for each of the counts was in the middle or lower 30's, and it is common knowledge that swallows do very little flying when it is that cold. On milder days the swallow count would undoubtedly have been in the hundreds. It is reasonable to suppose that the activity of other birds is also more limited when temperatures sink that low.

The Harold Kruses and David Coxes, who covered the WS0 Honey Creek Natural Area lands near Leland from 1961 through 1963, believe that weather factors accounted for the major differences that showed up on their count. The 1961 count was taken on a clear day with a starting temperature of 45; in 1962 the starting temperature was again 45, with a limiting ground fog; in 1963 the starting temperature was 65, with some early ground fog. These differences showed up in the totals (Table 4):

Table 4. Changes at Leland.

	1961	1962	1963
Mourning Dove	3	0	4
Flicker	3	0	2
Hairy Woodpecker	2	0	4
Downy Woodpecker	5	1	8
Wood Pewee	9	4	9
Black-capped Chickadee	8	2	5
White-breasted Nuthatch	5	0	7
Veery	5	3	9
Yellow-throated Vireo	4	0	2
Rufous-sided Towhee	4	1	6
Field Sparrow	3	1	5

Darby Tessen took two counts in the Appleton area between 1962 and 1964 where one of the most numerous passerines is the Savannah Sparrow. It is interesting to conjecture how the singing habits of this species may be affected by temperature, while the Song Sparrow may be relatively unaffected (Table 5):

Table 5. Changes at Appleton

	Appleton 1			Appleton 2		
	1962	1963	1964	1962	1963	1964
Starting temperature .....	.66	.40	.72	.68	.54	.47
Savannah Sparrow .....	.85	.47	.94	.61	.93	.53
Song Sparrow .....	.53	.51	.48	.38	.38	.33

It does not appear, however, that other species are as drastically affected as the Savannah Sparrow.

The effect that wind can have upon summer counts is shown in the Clam Lake (Ashland county) count undertaken by the writer in 1963 and 1964. This was a 19-mile road transect count, with three-minute listening stops every $\frac{1}{4}$ -mile through a typical northern Wisconsin forest region. Starting and stopping times and places were identical both years and the habitat appeared unchanged. The 1964 count was on June 15, compared with a two-week later date in 1963, which should have favored greater song in 1964. But in 1963 the wind velocity was under 10 m. p. h., while in 1964 it approached 20 m. p. h. As a result, on 66 of the 77 stops more birds were detected in 1963 than in 1964, and of the species that were found both years, 41 showed higher totals in 1963, while only 11 showed higher totals in 1964.

It was on the same windy day, June 15, 1964, that William Hilsenhoff repeated his Ogema count 75 miles to the southeast. He commented that

Table 6. Changes at Ogema.

	1962	1963	1964	1965
Black-and-white Warbler	12	12	6	0
Golden-winged Warbler	3	7	0	1
Nashville Warbler	11	17	13	19
Yellow Warbler	2	4	4	3
Myrtle Warbler	2	6	4	7
Black-thr. Green Warbler	5	1	2	5
Blackburnian Warbler	7	3	4	7
Chestnut-sided Warbler	10	12	14	10
Ovenbird	22	20	22	31
Mourning Warbler	6	6	4	7
Common Yellowthroat	11	11	20	17
Canada Warbler	1	0	1	1
Redstart	8	2	5	9

the wind had held down warbler song to some extent, and this is borne out—at least in part—by the four-year totals shown in Table 6:

It would appear that the wind was somewhat less of a deterrent at Ogema than at Clam Lake, both from the above figures and from the fact that a few species (Robin, Veery, Red-eyed Vireo, Rose-breasted Grosbeak, White-throated Sparrow) actually scored higher in 1964 than in other years. Perhaps this is because the Ogema count is not strictly a road transect venture that concentrates mostly on bird song, but also involves more walking and viewing.

Variations in Nesting Progress: It is well known that bird song decreases as the nesting season advances, and that by early July many of our passerines have become relatively quiet. It is also well known that the windup of the spring migration may vary by as much as two weeks in different years, presumably with a comparable variation in the progress of the nesting cycle. Thus, an observer might census an identical area on June 25 on two consecutive years. The first year might be one of early breeding, and result in fewer adult males singing and more juveniles out of the nest. The second year might be one of late breeding, producing more song and fewer young. This variable is further compounded by a three-week count period which permits one to census his area on June 10 one year and on June 30 the next. It is perhaps among the blackbirds that these differences show up most conspicuously. The young of the Redwinged Blackbird and Common Grackle are often sufficiently mature to be on their own and develop flocks before the end of June, and the Baltimore Oriole is one of the first passerines to become quiet as nesting progresses. The summer count data on these species will be discussed later on in this summary.

Population Measurements

With all of these variables, present singly or in combination—with no valid way of knowing how large an allowance each variation merits—with certain variables affecting certain species more than others, what hope is there of obtaining from summer bird count data actual evidence of fluctuations in populations? The hope lies in the obtaining of a large sample. The larger the sample, the more surely the variables will average themselves into insignificance.

Wisconsin's sample consists of ten counts that have been taken each of the past five years, an additional twelve counts with a four-year history, and an added thirteen counts, discounting the two-year and one-year counts as not yet being "of age" to be useful for comparative figures. Tables have been prepared for each Wisconsin species reported in the summer bird count project, listing the data from the 35 counts that have a history of three or more years. The 35 counts are of varying types: some restricted to as little as 20 acres, some covering as much as 25 miles, some restricted to three hours, some expanded to six hours. Some counts show minor variations in the method of retaking, experiencing small differences in time of start and finish, total hours, etc. Some counts were re-taken with great precision as to hours, distances, etc.

Reason and experience suggest that the great majority of species do not vary widely from year to year over the state as a whole. If this be true, then the tables should show very similar figures when the data are averaged out. In order to test this, two analyses have been carried

forward for each species. First, the totals were added for each year, listing the number of individuals and the number of counts in which the species in question was found during at least one of the five years ("Total" in the following charts); then the average number of birds per count for each year ("Average") was obtained by dividing the number of individuals by the number of count areas involved. Second, the number of individuals for a given area was totaled and then divided by the number of years the given area was censused ("Ave."); then, by comparing a particular year's figures to the average figure for each area, a total was obtained for the number of areas that were above or below their averages for the year in question ("up-down").

Here are the charts for the Catbird (Table 7) and the Common Yellowthroat (Table 8), two species that are numerous, widespread, and not subject to flocking tendencies.

TABLE 7. CATBIRD

	1961	1962	1963	1964	1965	Ave.
Beaver Dam T.	0	--	1	0	1	0.5
Dousman 1	7	7	10	10	7	8.2
Dousman 2	10	14	8	12	--	11.0
Eagle	9	10	9	13	19	12.0
Hudson	23	23	29	30	21	25.2
Ixonia	5	3	5	9	--	5.5
Kiel	2	3	--	--	--	3.3
Teland	20	20	27	--	--	22.3
Madison	42	55	48	25	37	41.4
Monterey	8	8	4	--	--	6.7
Orfordville	8	12	9	6	12	9.4
River Hills	8	6	7	5	7	6.6
Saukville 1	13	22	22	17	18	18.4
Shiocton	6	9	8	12	--	8.7
Sturgeon Bay	3	18	9	11	9	10.0
Viroqua 1	7	9	9	15	15	11.0
Viroqua 2	2	7	9	10	8	7.2
Appleton 1	11	8	11	--	--	10.0
Appleton 2	12	7	7	--	--	8.7
Brule	2	2	1	1	5	2.7
Grantsburg	15	11	10	9	9	11.2
Kenosha	11	9	11	13	11	11.0
Mount Morris	4	--	4	2	4	4.0
Ogema	11	7	7	3	5	5.5
Saukville 2	4	5	3	12	6	6.0
Verona	7	25	29	27	22	22.0
Wash. Is. 1	3	5	2	5	5	3.7
Wash. Is. 2	0	5	5	1	5	3.7
Dousman 3	5	9	5	5	5	6.3
Ives Grove	25	8	4	4	12	12.3
Racine 1	6	6	4	4	5	5.3
Racine 2	11	4	7	7	7	7.3
Sullivan	33	28	22	22	27	27.7
Superior	11	2	8	7	7	7.0
Wausau	3	8	7	7	6	6.0
Total	173/17	306/27	392/34	330/32	290/27	
Average	10.2	11.3	11.5	10.3	10.7	
Up-Down	3-14	11-14	16-16	17-13	13-13	

TABLE 8. COMMON YELLOWTHROAT

	1961	1962	1963	1964	1965	Ave.
Beaver Dam T.	0	--	1	7	7	3.7
Dousman 1	9	8	8	9	6	8.0
Dousman 2	5	6	5	10	--	6.5
Eagle	10	3	2	3	5	2.8
Hudson	10	13	17	11	13	12.8
Ixonia	4	5	15	30	--	14.2
Kiel	0	1	1	--	--	0.7
Teland	20	23	28	--	--	23.7
Madison	24	18	19	17	15	18.6
Monterey	6	6	3	--	--	5.0
Orfordville	4	7	7	6	7	6.2
River Hills	4	7	11	8	16	9.2
Saukville 1	31	50	26	32	35	34.8
Shiocton	26	18	19	26	--	22.2
Sturgeon Bay	3	3	4	4	2	3.2
Viroqua 1	7	4	4	3	2	4.0
Viroqua 2	2	4	5	4	3	3.6
Appleton 1	9	10	18	--	--	12.3
Appleton 2	16	11	24	--	--	16.7
Brule	21	30	29	30	27	27.5
Grantsburg	9	12	8	16	11	11.2
Kenosha	12	16	16	18	15	15.5
Mount Morris	2	--	0	2	1	1.3
Ogema	11	11	20	17	14	14.7
Saukville 2	2	5	4	8	4	4.7
Verona	0	1	2	1	1	1.0
Wash. Is. 1	6	13	9	7	8	8.7
Wash. Is. 2	1	4	4	9	5	5.5
Dousman 3	4	3	3	3	3	3.3
Ives Grove	9	11	4	4	8	8.0
Racine 1	8	11	10	9	9	9.7
Racine 2	4	3	6	4	4	4.3
Sullivan	14	10	5	9	9	9.7
Superior	19	23	24	24	22	22.0
Wausau	3	0	0	0	1	1.0
Total	156/17	265/27	346/34	365/32	271/27	
Average	9.1	9.8	10.2	11.4	10.0	
Up-Down	5-12	9-16	19-12	19-13	16-10	

It will be noted that both species show a consistent pattern. There is little variation in the average number of birds per count for each year (a dash indicates that the count was not taken that year). And there is no indication that either species was strongly above or below average in any given year, especially when one makes a slight mental allowance for observers being new to the project in 1961.

If the sample of these 35 counts is to be considered large enough for any validity, it should show not only constancy in some species, but also a sharp fluctuation in any case where an unusual influx or scarcity is known. A case in point is the known Dickcissel explosion of 1964 (see 1965 Passenger Pigeon 51-59). It will be noted in the Dickcissel chart (Table 9) that 1964 populations in the summer count areas were nearly

three times those of previous years, and that the "up-down ratio" was an overwhelming 17-1.

Are there other passerines, not subject to flocking tendencies, that have exhibited similar sudden changes in any single year? A perusal of

TABLE 9. DICKCISSEL

	1961	1962	1963	1964	1965	Ave.
Beaver Dam L.	0	--	0	1	0	0.2
Douman 1	7	6	2	9	2	5.2
Douman 2	3	0	3	9	--	3.7
Hudson	9	11	12	12	9	10.6
Orfordville	0	8	12.	5	2	5.4
Saukville 1	1	0	0	2	0	0.6
Shiocton	1	5	0	5	--	2.7
Viroqua 1	0	0	0	4	1	1.0
Viroqua 2	0	0	0	7	2	1.8
Appleton 1	0	0	0	3	--	1.0
Grantsburg	0	0	7	10	0	4.2
Kenosha	3	4	16	11	8.5	
Verona	1	0	0	3	1	1.2
Wash. Is. 1	0	0	1	0	0.2	
Wash. Is. 2	0	1	1	0	0.5	
Douman 3	0	0	1	0	0.3	
Ives Grove	0	0	2	0	0.7	
Racine 1	0	0	27	13	13.3	
Total	21/9	34/14	41/18	118/18	41/15	
Average	2.3	2.4	2.3	6.6	2.7	
Up-Down	2-7	4-10	4-14	17-1	2-12	

the charts reveals one possibility: the Clay-colored Sparrow in 1965. The sample is much too small to be definitive, for few of the counts covered good Clay-color country in central and northern Wisconsin. Yet the size of the increases at Hudson, Grantsburg and Ogema (Table 10) are striking enough to be strongly suggestive. A count at Green Bay, although having only a two-year continuity, also showed an increase from three Clay-colors in 1964 to 13 in 1965.

Most passerines showed relatively little year-to-year variation. Table 11 shows the average number of individuals per count in the five-year

TABLE 10. CLAY-COLORED SPARROW

	1961	1962	1963	1964	1965	Ave.
Hudson	6	7	13	12	21	11.8
Grantsburg		4	0	0	9	3.2
Ogema		7	7	10	18	10.5
Superior			1	3	4	3.7
Total	6/1	18/3	24/4	25/4	52/4	
Average	6.0	6.0	6.0	6.2	13.0	
Up-Down	0-1	1-2	2-2	1-3	4-0	

summations of some of the more common species of southern and central Wisconsin. In no case was the "up-down ratio" heavily weighted toward the high or low side for any particular year. This leads to the conclusion that the great majority of Wisconsin species have relatively stable populations, and that such year-to-year variations that have occurred have been too small to be measured by the limited sample which the five-year summer bird count has been able to supply.

Certain species, notably swallows and blackbirds, show tendencies to congregate by the latter half of June, either as colony breeders or as

inhabitants of communal overnight roosts. Considerably larger fluctuations can be expected among these species, without inferring that sub-

Table 11. Average Number of Birds per Count. 1961-1965.

	1961	1962	1963	1964	1965
Mourning Dove	11.8	11.4	12.1	15.7	15.7
Chimney Swift	4.4	8.7	4.3	6.4	5.7
Yellow-shafted Flicker	4.3	5.3	5.6	7.8	7.7
Eastern Kingbird	4.0	6.9	5.0	4.9	5.6
Crested Flycatcher	5.7	5.0	5.2	5.3	6.8
Wood Pewee	5.7	7.1	8.4	8.6	8.1
Blue Jay	7.6	10.4	11.3	10.0	11.9
Crow	10.2	12.6	14.4	10.9	10.1
Black-capped Chickadee	4.0	4.8	5.4	4.8	7.2
House Wren	10.6	7.5	7.1	8.2	7.3
Wood Thrush	3.7	3.1	3.3	4.5	4.4
Veery	4.1	5.1	7.5	8.4	7.1
Cedar Waxwing	4.6	8.2	8.8	7.8	10.2
Red-eyed Vireo	4.8	7.5	7.4	8.0	8.5
Yellow Warbler	5.6	4.4	5.6	5.7	4.9
Redstart	4.0	5.3	7.3	7.1	6.8
Bobolink	12.4	8.6	10.4	13.8	13.4
Eastern Meadowlark	5.0	7.1	9.5	15.0	10.0
Western Meadowlark	7.0	8.2	5.9	9.2	10.3
Brown-headed Cowbird	15.1	15.0	16.5	15.6	15.5
Cardinal	6.4	4.4	3.8	4.7	5.4
Rose-breasted Grosbeak	4.3	4.3	4.2	6.1	4.7
Indigo Bunting	7.5	8.2	7.3	9.9	11.2
Goldfinch	5.1	9.1	13.1	13.7	14.6
Savannah Sparrow	11.0	14.7	16.5	18.4	14.8
Vesper Sparrow	6.9	5.8	7.4	8.4	10.6
Chipping Sparrow	2.7	3.3	4.9	5.4	5.7
Field Sparrow	4.3	7.4	6.8	6.9	8.3
Swamp Sparrow	5.7	5.3	5.2	5.5	5.7
Song Sparrow	16.1	18.3	22.0	25.6	17.5

stantial population changes are taking place. On an Appleton count, for instance, the number of Bank Swallows dropped from 128 in 1962

Table 12. Average Number of Birds per Count. Flocking Species.

	1961	1962	1963	1964	1965
Tree Swallow	7.4	9.4	7.5	16.1	11.2
Bank Swallow	9.1	21.7	37.0	54.4	20.6
Barn Swallow	5.9	8.0	8.5	19.1	8.5
Purple Martin	7.7	7.8	9.6	20.4	16.7
Robin	15.7	22.5	33.1	41.7	37.5
Starling	25.7	66.2	41.2	59.5	40.9
House Sparrow	29.4	42.7	28.2	55.4	40.7
Redwinged Blackbird	118.1	80.4	101.5	138.4	70.1
Common Grackle	122.6	67.4	84.0	129.6	74.7

to 5 in 1963; it merely meant that a colony had deserted a nesting area within the count area in favor of a new area outside the territory. And

at Leland the number of Common Grackles plummeted from 210 in 1961 to six in 1962 and three in 1963, because blackbirds that roosted in the area in 1961 were subsequently missing. The wide variations that can be expected in year-to-year comparisons for flocking species is shown in Table 12.

Is it coincidence that the four species of swallows all showed decided increases in 1964? Barn Swallow figures in 1964 were more than double for any other year, while figures for the Tree Swallow, Bank Swallow and Purple Martin that year were approximately double the average of the other years. The problem of jumping to a generalized conclusion of a 1964 increase in all swallows is illustrated by comparing Tables 13 and 14. In the case of the Bank Swallow, the large increase was

TABLE 13. BANK SWALLOW

	1961	1962	1963	1964	1965	Ave.
Beaver Dam L.	0	--	7	0	2	1.8
Dousman 1						
Dousman 2	29	27	29	19	--	26.0
Eagle	10	2	14	7	4	8.2
Hudson	0	1	4	0	0	1.0
Ixonia	1	1	5	19	--	6.5
Kiel	0	0	2	--	--	0.7
Leland						
Madison						
Monterey						
Oxfordville	0	0	1	0	0	0.2
River Hills	7	53	50	44	60	42.8
Saukville 1	4	83	108	120	70	77.0
Shiocton	51	23	51	28	--	38.2
Sturgeon Bay	0	2	0	0	0	0.4
Viroqua 1	7	11	25	35	35	22.6
Viroqua 2						
Appleton 1		28	29	7	--	21.3
Appleton 2	128	5	52	--	61.7	
Brule	0	0	2	2	1.0	
Grantsburg	2	0	4	0	1.5	
Kenosha	15	55	44	16	32.5	
Mount Morris						
Ogema						
Saukville 2	0	12	0	9	5.2	
Wash. Is. 1	35	0	2	10	12.0	
Wash. Is. 2	0	93	92	20	53.7	
Ives Grove						
Racine 1		1	1	23	8.3	
Racine 2		295	691	84	356.7	
Sullivan						
Superior		60	30	16	35.3	
Total	109/12	412/19	850/23	1197/22	351/17	
Average	9.1	21.7	37.0	54.4	20.6	
Up-Down	3-9	6-10	15-8	9-13	6-11	

TABLE 14. PURPLE MARTIN

	1961	1962	1963	1964	1965	Ave.
	4	--	6	12	6	7.0
	2	5	6	4	12	5.8
	13	19	7	7	--	11.5
	1	2	3	2	2	2.0
	8	6	3	18	20	11.0
	1	2	3	26	--	8.0
	3	3	1	--	--	2.3
	0	1	0	--	--	0.3
	1	1	0	0	0	0.4
	13	6	13	--	--	10.7
	5	2	1	2	1	2.2
	32	36	27	83	45	44.6
	6	50	26	66	55	40.6
	8	1	11	16	--	9.0
	26	9	4	27	5	14.2
	0	0	5	6	10	4.2
		11	2	15	--	9.3
		4	1	4	--	3.0
		2	0	3	2	1.7
		3	3	1	4	2.7
		5	15	16	5	10.2
		7	--	15	2	8.0
		3	4	2	1	2.5
		0	0	6	8	3.5
	16	44	5	7	18.0	
	0	2	18	7	12.0	
		2	4	3	3.0	
		12	77	17	45.3	
		32	132	167	110.3	
		0	1	2	1.0	
			4	2	3.0	
Total	123/16	194/25	288/30	570/28	384/23	
Average	7.7	7.8	9.6	20.4	16.7	
Up-Down	6-10	10-14	11-19	18-8	10-10	

due almost entirely to one Racine count, and the number of below average counts in 1964 was actually greater than the number of above average counts. The Purple Martin, on the other hand, showed sizable increases at several points, with a strong predominance of above average counts. The Tree Swallow chart shows a 1964 "up-down ratio" of 17-11, while that of the Barn Swallow for 1964 is 17-10. Both charts resemble that of the Purple Martin, and lend support to the guess that swallow populations in general were up during that year.

Still more difficult to decipher is the Red-winged Blackbird chart (Table 15). A sizable year-to-year fluctuation appears for almost all areas, and takes on huge proportions where nocturnal roosts are involved. It was suggested above that comparative figures might be affected by the progress of activity at the time of the taking of a particular count, and that counts taken near the end of June might therefore reveal larger numbers of young blackbirds on the wing than might appear at mid-June. The dates of the counts of highest Red-winged

Blackbirds have been checked out with this in mind, but no correlation can be detected. The largest flocks were reported as frequently near June 15 as near June 30. To check out this factor more completely, it would be necessary to gather data when the breeding season actually began for this species in each of the count years. This we have not attempted.

It was also conjectured that the count date might affect the tabulation of Baltimore Orioles, since this species has a tendency to curtail song well before the end of June. Consider the count at Hudson (Table 16), where the largest sample was made on a precisely re-run road transect

TABLE 15. RED-WINGED BLACKBIRD

	1961	1962	1963	1964	1965	Ave.
Beaver Dam L.	30	--	40	56	32	39.5
Dousman 1	85	16	218	150	109	115.6
Dousman 2	130	90	65	96	--	95.2
Eagle	37	41	55	49	16	39.6
Hudson	42	44	56	43	79	52.6
Ixonia	80	175	103	110	--	117.0
Kiel	12	20	1000	--	--	344.0
Leland	18	18	26	--	--	20.7
Madison	45	22	16	26	26	27.0
Monterey	103	19	77	--	--	66.3
Orfordville	6	45	19	24	20	22.8
River Hills	281	390	350	293	210	304.8
Saukville 1	1000	600	350	500	200	530.0
Shiocton	71	80	86	184	--	105.2
Sturgeon Bay	33	68	12	20	23	31.2
Viroqua 1	8	12	20	5	7	10.4
Viroqua 2	25	15	31	27	38	27.2
Appleton 1	203	238	204	--	--	215.0
Appleton 2	167	107	176	--	--	150.0
Brule	12	12	6	19	12	12.2
Greensburg	58	117	35	36	61.5	
Kenosha	53	112	1724	332	555.2	
Mount Morris	5	--	4	5	4.7	
Ogema	33	20	31	23	26.7	
Saukville 2	61	0	35	39	33.2	
Verona	3	5	1	6	3.7	
Wash. Is. 1	91	47	84	86	77.0	
Wash. Is. 2	36	48	81	57	55.5	
Dousman 3		3	4	32	13.0	
Ives Grove		39	55	43	45.0	
Racine 1		104	274	316	231.3	
Racine 2		7	72	73	34.0	
Sullivan		3	6	20	9.7	
Superior		53	45	25	41.0	
Wausau		12	8	20	13.3	
Total	2007/17	2372/27	3451/34	4429/32	1892/27	
Average	118.1	80.4	101.5	138.4	70.1	
Up-Down	6-11	12-15	13-21	16-16	13-14	

count. The dates: June 17, 1961 (23); June 25, 1962 (13); June 21, 1963 (25); June 30, 1964 (17); June 15, 1965 (36). A similar correlation appears at Shiocton: June 24, 1961 (3); June 23, 1962 (4); June 12, 1963 (12); June 10, 1964 (7). Little variation in numbers appears on other counts, however, and the numbers are too small to indicate with certainty the effect of the count date on the Baltimore Oriole data.

Improving the Value of the Count

Again and again it has been necessary to refer to summer bird count conclusions as "suggestive," "tentative" and "approximate." Yet it is in the nature of virtually all major cooperative ventures to start out on a limited scale. Such projects gain in stature over lengthy periods of time as techniques become better refined and as more help is enlisted. The participants in Wisconsin's summer bird count have not only supplied some valuable data, but have also made valuable contributions in the direction of developing methods by which future summer counting projects can best be undertaken.

It is good news that another major summer count venture was launched in Maryland and Delaware in 1965, similar to Wisconsin's effort in some respects, different in others. The states were divided into "degree blocks," and road transect routes were laid out according to a random plan in each degree-block. Each count was four hours and 25 miles in length, consisting of listening stops every half-mile. Observers were sent over check routes in advance, to be checked for accuracy and competence for sound and sight identification. The great value of this venture over Wisconsin's comes in its ability to compare the relative abundance of

TABLE 16. BALTIMORE ORIOLE

	1961	1962	1963	1964	1965	Ave.
Beaver Dam L.	0	--	0	0	1	0.2
Dousman 1	5	9	8	9	4	7.0
Dousman 2	10	7	4	10	--	7.7
Eagle	4	13	3	4	5	3.4
Hudson	23	13	25	17	36	22.8
Ixonia	0	0	3	3	--	1.5
Kiel	1	3	3	--	--	2.3
Leland	3	1	1	--	--	1.7
Madison	0	0	4	0	2	1.2
Monterey	2	1	0	--	--	1.0
Orfordville	3	5	5	6	5	4.8
River Hills	5	7	3	6	7	5.6
Saukville 1	0	3	2	0	10	3.0
Shiocton	3	4	12	7	--	6.5
Sturgeon Bay	9	11	9	11	11	10.2
Viroqua 1	7	6	3	1	3	4.0
Viroqua 2	4	2	4	2	1	2.6
Appleton 1	11	11	10	8	--	9.7
Appleton 2	8	8	3	8	--	6.3
Brule	7	1	1	1	7	5.0
Grantsburg	15	7	2	2	6	7.5
Kenosha	3	0	4	3	3	2.5
Mount Morris	9	--	5	5	2	5.3
Ogema	10	3	5	1	1	4.7
Saukville 2	2	0	1	2	2	1.2
Verona	2	4	3	5	3	3.5
Wash. Is. 1	2	0	2	1	1	1.2
Wash. Is. 2	0	0	1	0	0	0.2
Dousman 3	1	0	6	3	2	3.7
Ives Grove	1	1	3	3	0	2.7
Racine 1	0	0	0	6	1	2.3
Racine 2	0	0	1	1	1	0.7
Superior	4	7	4	7	4	5.0
Wausau	6	6	2	8	8	5.3
Total	79/17	112/27	134/33	116/31	128/26	
Average	4.6	5.3	4.1	4.7	4.9	
Up-Down	7-10	15-10	12-21	17-13	14-12	

given species **between** areas. Blue Jays, for instance, were found to be decidedly more numerous in certain parts of those states than in others. The Wisconsin plan was not set up to make "inter-area comparisons," and sought only to make "intra-area comparisons" by censusing the same tracts in successive years.

Plans are under way to expand the Maryland-Delaware effort through most of the states in the eastern half of the United States in 1966. It is our intention to join this endeavor by switching the road-transect portion of the Wisconsin project over to the Maryland-Delaware plan. This road-transect portion must be undertaken by persons who know their bird songs well, and since there are 67 transects that should be run, a large number of experienced observers are needed. Plans are being made to hold tryouts and training sessions at the Racine convention in May. Persons desiring to help will be tested on sound recordings of bird songs Friday evening, then taken into the field on sample transects the following morning.

Those who will not be participating in the road-transect portion of the project will be urged to continue with the limited acreage walking counts they have been taking. Over half of the counts in previous years have been of this type, and there is much to be learned by their continuance. We urge, however, that the counts be retaken each year with greater precision: starting at the same hour, finishing at the same hour, covering the same territory in as nearly the same manner as possible.

Anyone who could find time to re-run his count two or even three times during the count period could make a significant contribution to the project. Karl Bartel has shown (1965 **Passenger Pigeon 138-9**) that considerable variations occur when a given census area is re-run on consecutive days in winter. We need to know to what extent the same is true in summer. Moreover, if several counts could be run both near the beginning and the end of the count period, the changes in population due to the progress of the breeding cycle could be gauged more accurately.

All that can be done to determine the extent to which count data are influenced by variations in date and weather should be undertaken. But the surest way in which these variables can be lessened is by increasing the size of the data sample. This means engaging more observers in more summer counts. The summer bird count is off to a fine start, and holds great promise for future expansion. It is not difficult to foresee the day when the summer bird count will rival the Christmas bird count as a major cooperative enterprise throughout North America. Far from being a quiet month when ornithologists rest up after trying to keep up with the spring migration, June can become one of the most active months as a great ornithological task force regroups for the monumental task of measuring the breeding bird population.

Roberts, Wisconsin



ZIP CODE

The Post Office Department has advised us several times that, effective January 1, 1967, new regulations for second class mailing will call for zip codes on all pieces of mail.

If you are receiving **The Passenger Pigeon** or **The Badger Birder** without your zip code you should supply it immediately to the membership chairman, Mrs. LeRoy Mattern, 404 Fern Lane, Wausau, Wisconsin 54401.

Post-Invasion Status of the Dickcissel in Southern Wisconsin

By JOHN A. WIENS and JOHN T. EMLÉN

During the spring and summer of 1964 southern Wisconsin witnessed a heavy invasion of Dickcissels (*Spiza americana*). This sudden and spectacular increase of a previously uncommon species prompted us to initiate a series of roadside surveys aimed at documenting the extent and magnitude of the invasion. The result of the 60 standard surveys made in 1964 (Emlén and Wiens, 1965) provided a quantitative record of the invasion. They also suggested that if the study were extended over a period of several years, much could be learned not only about the peculiar instability of Dickcissel populations, but also about the dynamics of grassland bird populations in southern Wisconsin when exposed to such erratic invasions. This paper summarizes the results of 32 surveys made during the spring and summer of 1965 and discusses a number of changes in the populations of other species as the Dickcissel declined from their 1964 peak of abundance.

Methods

The surveys were made between June 7 and July 24, 1965, following the same procedures used in 1964 (op. cit.). Briefly, each survey was made by cruising a section of roadway through open farmland in an open car, stopping every 0.2 miles, for 25 stops. At each stop the observer stepped a few yards from the car to permit full vision and hearing and then, for one or two minutes, counted all the birds he could detect by hearing or sight. A record of the vegetation was also made at each of the observation stops by visually estimating the relative extent of fields of various types within a roughly-gauged 200-yard radius of the observer.

The junior author made 12 surveys (300 stops) in southern and eastern Wisconsin in late June and early July while the senior author conducted intensive studies on a four-square-mile area in Fitchburg Township of Dane county. Again, as in 1964, a number of observers in other parts of the state contributed survey reports in response to questionnaires distributed by the Research Committee of the Wisconsin Society for Ornithology. In all, 32 surveys (764 stops) and 23 reports provided data for this report. Twenty-two of the surveys were taken in the same areas in 1964 and 1965; these "repeat" surveys provide the most useful data for the year-to-year comparisons.

Distribution in 1965

The distribution of the Dickcissel in Wisconsin in June-July, 1965, as revealed by the surveys, is compared with the 1964 distribution in Figure 1. It is at once apparent that the range in 1965 covered only about

one half the area of the invasion of 1964, shrinking back into the southwest region of the state where Dickcissels were most abundant in 1964. Although survey coverage was regrettably not as complete in 1965 as in

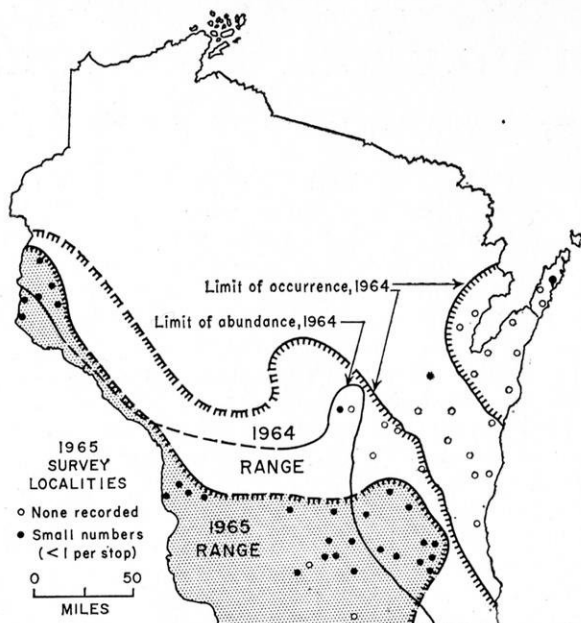


FIGURE 1. DISTRIBUTION OF DICKCISSELS IN SOUTHERN WISCONSIN IN 1964 AND 1965. THE LINES SHOW THE EXTENT OF THE INVASION OF 1964 (SEE ALSO FIGURE 1 IN EMLEN AND WIENS, 1965). THE STIPPLED AREA SHOWS THE EXTENT OF THE 1965 DISTRIBUTION AS REVEALED BY 32 STANDARD SURVEYS. 1965 SURVEY SITES ARE INDICATED BY DOTS WHERE DICKCISSELS WERE RECORDED, BY OPEN CIRCLES WHEN NONE WERE RECORDED.

1964, it is clear that in many localities where the Dickcissel was common or even abundant in 1964 it was rare or entirely absent in 1965.

Numbers

Not only was the range of the Dickcissel diminished in 1965, but the density or abundance of the species where it did occur was much lower than it was in the same areas in 1964. The differences in population densities recorded by surveys in 1964 and in 1965 are shown in

Table 1. Comparison of Dickcissel densities in southern Wisconsin in 1964 and 1965 as indicated by the number of surveys which fall into each of four classes of Dickcissel abundance.

	Uncommon (less than 0.5)	Common (0.5-1.0)	Very Common (1.0-1.7)	Abundant (more than 1.7)
No. Dickcissels /stop:				
1964 (53 surveys)	18 (34%)	14 (26%)	14 (26%)	7 (13%)
1965 (32 surveys)	27 (84%)	5 (16%)	0	0

Table 1. In 1965 none of the surveys recorded averages of more than one Dickcissel per observation stop while in 1964 21 of 53 standard surveys reported numbers above this level of abundance.

The data from the 22 surveys taken at the same sites in 1964 and 1965 perhaps give the best measure of the decline in Dickcissel numbers. In 1964 these surveys recorded an average of 1.00 Dickcissels per observation stop; the 1965 surveys averaged only 0.32 per stop, a reduction of 68 percent. On the average, Dickcissels accounted for 20 percent of the roadside birds encountered at these survey sites in 1964, while in 1965 they comprised only 8 percent of the total, a reduction of 60 percent. At only one of the 22 survey sites were Dickcissels more abundant in 1965 than in 1964.

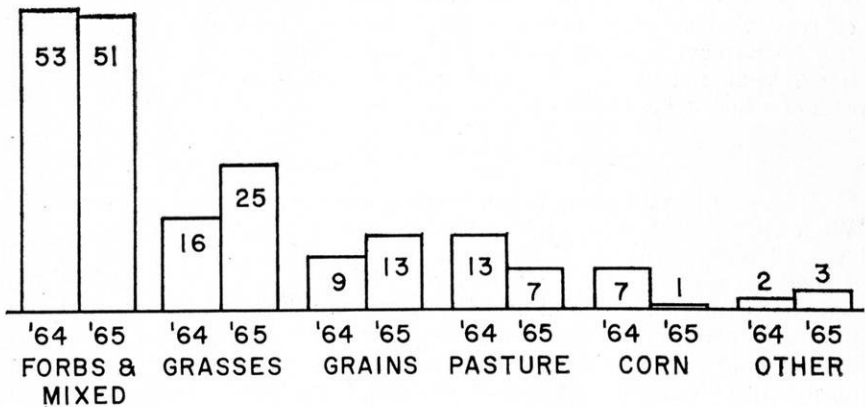


FIGURE 2. HABITAT DISTRIBUTION OF DICKCISSELS IN SOUTHERN WISCONSIN IN 1964 AND 1965 AS INDICATED BY THE PER CENT OCCURRENCE IN EACH OF SIX MAJOR VEGETATION TYPES. "FORBS" IMPLIES ALFALFA AND OTHER LEGUMES.

Detailed studies of Dickcissel populations on the Fitchburg study area of Dane county showed a similar downward trend. After rising from a base level of a few singing males between 1957 and 1963 to an estimated 200 to 225 in 1964, the population dropped back to 60 or 70 males in 1965. This represents a 74 percent decline between 1964 and 1965.

The geographic and numerical data taken together indicate a total decline of between 60 and 75 percent in Dickcissel abundance from the high peak reached in 1964. This rapid drop, though spectacular, is probably not inconsistent with the fluctuations which have characterized the history of the species in southern Wisconsin (Taber, 1947; Emlen and Wiens, 1965).

Habitat Selection

Again, as in 1964, the Dickcissel was found primarily in the non-forested farming regions of the state. The method of notation of vegetation types in 1965 was slightly different from that used in 1964 (frequency of occurrence of type at each stop in 1964 vs. dominant type at each stop in 1965) and could not be directly compared, but in both years the preference was clearly for lush alfalfa fields and mixed stands of

grasses and forbs. Calculations of the percentage of all Dickcissels which were seen in each vegetation type show that in both 1964 and 1965, over one half of all Dickcissels were in or near alfalfa and hay fields (Figure 2).

Records of occurrence in other vegetation types suggest changes between 1964 and 1965; more Dickcissels were associated with tall grasses and grains in 1965, and fewer were seen about grazed pastures and corn fields. This suggests that in 1965 the ecological amplitude or breadth of habitat selection of the Dickcissel in southern Wisconsin was somewhat narrower than in 1964, with fewer birds extending into the less favorable short grass and field crop types.

In the 1965 surveys notations were also made of the amount of shrub or tree cover within the 200 yard survey radius. Such cover was rated on a scale from 0 (none) to four (numerous): 50 percent of the Dickcissels recorded were in areas in which shrub or tree cover was essentially absent; 21 percent in areas with only traces of such cover; 23 percent at sites of sparse cover; 5 percent in areas of moderate cover; and only 2 percent where trees and shrubs were numerous.

Associations with Other Species

The year to year changes in the abundance of Dickcissels in southern Wisconsin provide an unusual opportunity to examine the effects of the levels of one species on the populations and behavior of other species of roadside and other open field birds. Two approaches were used for comparing interspecies relationships in 1964 and 1965. In the first, based upon a direct comparison of bird populations in the 22 areas surveyed in both years, geography and habitat are constant between years, the number of Dickcissels varying; in the second, comparing survey localities which supported similar Dickcissel densities in the two years, there is considerable variation in geography and habitat.

The amount of association between Dickcissels and other grassland birds was evaluated, as in 1964, by applying Cole's (1949) index of association, which relates the frequency with which two species actually occur together at observation stops with the frequency with which they would occur together by chance. The index values obtained from the 1964 and 1965 Dickcissel surveys are given in Table 2. For most species the values are close to the neutral point and show little change between 1964 to 1965. The Dickcissel-Red-wing association, however, showed a substantial increase in 1965 in each of the two comparative treatments employed (A and B in Table 2). There was also an appreciable increase in Dickcissel associations with Western Meadowlarks and, in the treatment which compared surveys having similar Dickcissel numbers in the two years (B), a decrease in associations with Savannah Sparrows.

These changes seem to support the conclusion, proposed in the previous section on habitat selection, that the birds in 1965 tended to narrow their ecological distribution, occurring less frequently in the shorter and sparser vegetation which is the Savannah Sparrow's habitat. To what extent this restriction was truly ecological, and to what extent it was based on the demonstrated geographical retraction (cf. Figure 1) is not clear. Its similarity to the lower association with mesic species where Dickcissels were sparse in 1964 (Emlen and Wiens, 1965, Table 1) sug-

gests the possibility that geographical factors may have outweighed purely ecological factors in producing the shift. However, these reductions in associations might equally have resulted from the restriction of the Dickcissel's ecological amplitude, drawing it out of association with some species, and leaving it in association only with the species with which it showed greatest habitat co-occupancy (i.e., Red-wings). Addi-

Table 2. Association of Dickcissels with other species of grassland birds in 1964 and 1965.

In this system +1.00 means that the two species being matched invariably occurred together, -1.00 would mean that they never occurred together, and 0.00 that the amount of association was no different from that expected by chance.

	Western Meadowlark	Eastern Meadowlark	Red-wing	Bobolink	Savannah Sparrow	Grasshopper Sparrow	Vesper Sparrow
A—Surveys repeated at the same sites each year (n=22)							
1964	+.03	+.03	+.09	+.01	-.04	+.01	-.07
1965	+.09	+.05	+.38	+.05	-.04	+.06	-.04
B—Surveys at different sites with similar Dickcissel density							
51+ (n=32)	11+	21-	1961	+.07	+.04	+.03	+.01
1965 (n=30)	+.13	+.03	+.40	+.03	-.20	+.07	-.03

tionally, the documented increases in Red-wings and Western Meadowlarks in 1965 (cf. Table 3) could well have accounted for the increased associations by producing an expansion of their ecological ranges into that of the Dickcissel. It seems probable that all of these factors played a role in shifting the associations in areas where Dickcissel numbers were low.

The Balance of Populations

Data on species composition in different areas provided information concerning the effects of the Dickcissel invasion on the resident avifauna in 1964 and were again useful in analyzing the effects of Dickcissel subsidence in 1965. Our proposal (op. cit. p. 58) that the Dickcissel influx of 1964 was superimposed on the existing bird populations without any marked displacements is, for the most part, substantiated by the 1965 data from the 22 repeat surveys. Aside from the decline in Dickcissels, the number of grassland birds (all species taken together) remained essentially unchanged in the 18 surveys conducted where the invasion had been light or moderate (Figure 3). Where the invasion was heavy, however, (category A) the total birds per stop increased in spite of a strong (1.64 birds per stop) decline in Dickcissels. A heavy increase in

the Red-wing population was clearly responsible for this situation, for without them the net change was a reduction.

Other changes to be seen in the data graphed in Figure 3 are provocative but at this time remain unexplained. Western Meadowlarks, Bobolinks and Grasshopper Sparrows showed moderate to strong declines while the Red-wings increased in all the survey categories. Vesper Sparrows and Savannah Sparrows showed gains in some surveys and losses in others.

The possibility of species replacement as suggested in our 1964 report (op. cit. p. 58) does not appear to be supported by the 1965 data. The inverse correlation between Dickcissel and Savannah Sparrow abund-

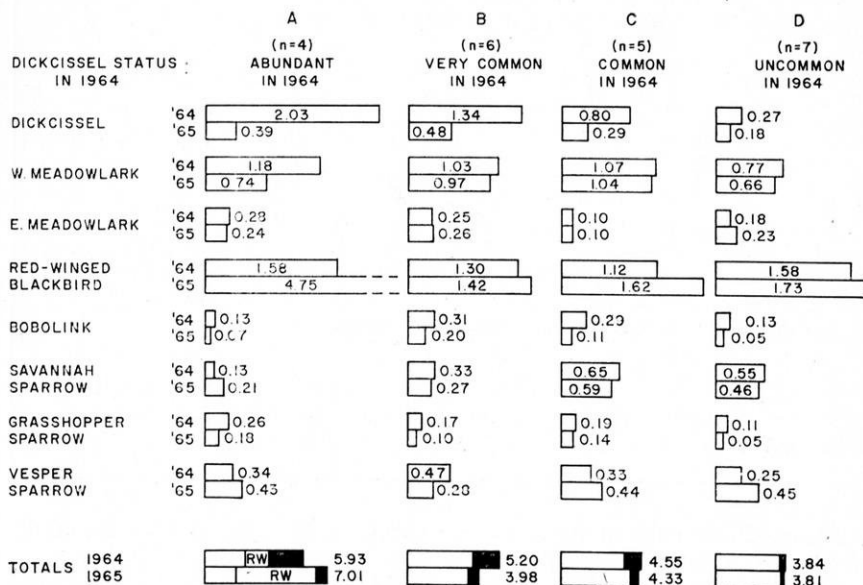


FIGURE 3. NUMERICAL STATUS OF THE MAJOR GRASSLAND BIRD SPECIES IN 1964 AND 1965 ARRANGED IN FOUR CATEGORIES ACCORDING TO THE ABUNDANCE OF DICKCISSELS DURING THE YEAR OF THE INVASION—1964. DATA ARE LIMITED TO THE 22 SITES WHERE SURVEYS WERE REPEATED IN 1965. THE LENGTH OF EACH BAR INDICATES THE AVERAGE NUMBER OF INDIVIDUALS RECORDED PER OBSERVATION STOP. IN THE HISTOGRAMS SHOWING TOTALS, THE DICKCISSEL COMPONENT IS SOLID; THE RED-WING COMPONENT IS SHOWN IN THE A COLUMN AND MARKED WITH AN RW.

ance which was considered as possible evidence in the 1964 studies was only weakly maintained in 1965, and, except for a slight increase in the first category of surveys (A in Figure 3), no response to the 1965 Dickcissel decline occurred which could be interpreted as compensatory. The inverse numerical relationship observed in 1964 might rather be a reflection of independent geographical variations in population densities of the two species; in 1965 the Dickcissel declined markedly throughout its 1964 range while the Savannah Sparrow showed only slight deviations from its local 1964 population densities.

The marked increase in Red-wings which coincided with the decline of Dickcissels, as noted above and depicted in Figure 3, could conceiv-

ably have been due to species replacement through release from competition with the closely associated Dickcissels. Direct observations of territorial behavior in the area of intensive study revealed occasional interaction between these species, but direct territorial competition was not seen. Also, the late spring arrival of Dickcissels after Red-wing territories were already established makes it seem unlikely that Red-wings could benefit immediately by the reduced Dickcissel population.

The 1965 surveys have demonstrated that the Dickcissel invasion of 1964 was just another wave crest in the surging ebb and flow which characterizes the boundary areas of this bird's geographic range. But the WSO surveys have done more than document another advance and retreat; they have revealed that simple standard roadside surveys of grassland bird populations can provide valuable information on habitat requirements, carrying capacities and the balance of numbers between species. The 1965 surveys have helped to clarify some of the issues raised by the 1964 surveys; more data of the same type in the years ahead could serve to elucidate a number of fundamental problems of population dynamics.

Summary

Roadside surveys showed that Dickcissels, which increased about fifty fold in southern Wisconsin in 1964 decreased precipitously in 1965. Their range was more restricted to the southern and western areas of the state than in 1964, and the numbers within the area where the birds persisted declined by 60 to 75 percent.

The preferred habitat in both years was alfalfa or mixed stands of alfalfa and grass; habitat selection was narrowed in 1965 with fewer birds found in short grass pastures and cornfields.

Dickcissels showed an increased association with Red-winged Blackbirds in 1965, perhaps because of higher and more dispersed Red-wing populations, perhaps because the narrowing of the Dickcissel's ecological range brought it into greater habitat co-occupancy with Red-wings.

Except for a Red-wing increase in areas of greatest Dickcissel decline, the relatively constant level in totals of resident grassland species suggests that the Dickcissel invasion was superimposed on the resident avifauna with little displacement of established species.

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Emlen, J. T., and J. A. Wiens. 1965. The Dickcissel invasion of 1964 in southern Wisconsin. *Passenger Pigeon* 27: 51-59.
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BOOK REVIEWS

BIRD STUDIES AT OLD CAPE MAY. By Witmer Stone. Dover Publications, Inc., New York, 1965. Vol. I and Vol. II, xliii + 939 pp., 121 plates and 277 line drawings. \$2.75 per volume.

This is the text of the 1937 edition, with a new introduction by Roger Tory Peterson, a biography of Dr. Stone and a list of 51 additional species recorded at Cape May since 1937, compiled by Ernest A. Choate. Dover continues to provide today's birders with the classics from the recent past. No dead volumes these! After 70 pages of introductory material, descriptive of the Cape May environs, Dr. Stone devotes the rest of the book to species and behavior description with a minimum of statistics valuable only in the East. The information here is timeless, interesting to read, and almost as useful in Wisconsin as in New Jersey.—F. T. Ratliff.

THE BIRD WATCHER'S QUIZ BOOK. By Henry Hill Collins, Jr. Dover Publications, Inc., New York, 1965. ix + 116 pp., paper-bound. \$1.00.

Here is an interesting little book that bird watchers will enjoy. Seventy-four quizzes, ranging from easy to difficult (along with the answers), are presented to challenge the reader's knowledge of birds. The book is divided into three parts with quizzes for the amateur, advanced and specialist bird watcher. You will like this book.—Nils P. Dahlstrand.

TWO WSO STEENBOCK SCHOLARSHIPS AWARDED

Two young men have been awarded \$100 WSO Steenbock Scholarships for study and research in birds for 1966. The scholarship was announced in the Winter, 1965, issue of **The Passenger Pigeon** and is made directly possible by the gift from Harry S. Steenbock, Professor Emeritus, University of Wisconsin.

David Snarski, Superior, Wisconsin, will do research on the birds of Douglas county. His project will be carried out under the direction of Dr. Richard Bernard, Wisconsin State University-Superior.

Charles Sindelar, Stevens Point, Wisconsin, will do research on Osprey nesting distribution and success in Wisconsin. His project will supplement and enlarge upon the Osprey survey that was announced in the Spring, 1966, issue.

Scholarships will be available again in 1967.

By the Wayside...

This year we have, more than usual, been presented with the field note editor's dilemma. There is always the question as to the acceptability of sight records of rarities. In any case, where at all possible, full written information is requested from the observer including all markings noted, the exact location and type of habitat in which the observation was made. On the basis of this information, the editors must decide whether or not a record is suitable for publication.

"The philosophy usually followed", to quote Sam Robbins, "is one of great caution; once a record appears in print it becomes part of the 'accepted' body of scientific data on which future ornithological studies and publications are based. Therefore, great care must be exercised in withholding publication of a record whenever reasonable doubt exists that the bird could be mis-identified. If one must err, one should err on the side of conservatism—rejecting what might have been a fully accepted record, rather than publishing where some doubt remains."

When a rarity is reported and a full written description of the observation is obtained, Sam asks himself the following questions: "Is the bird fully described? Was every important field mark noted, or was something missing that should have been seen? Is there any other bird in any plumage that could possibly answer the same description? Were the conditions of observation good enough to assume that the description was accurately made? Is the observer sufficiently experienced and competent to have recorded accurately what he saw?"

We shall now apply these criteria to some of the rarities reported in the 1965 summer season.—Hal and Nancy Roberts, Stevens Point.

European Widgeon or Fulvous Tree Ducks at Crex Meadows? In July two observers, one from Minneapolis and one from Grantsburg, reported three strange, long-necked, tan-colored ducks which they identified as Fulvous Tree Ducks in the Crex Meadows refuge, Burnett county. Written description of field marks were quite complete and conditions of observation were apparently good. Mr. Norman Stone, manager of the refuge, was notified of the find and later he and his assistant, Frank Pratt, saw what they are certain must have been the same three ducks. Stone and Pratt identified the birds as European Widgeon in eclipse plumage. Here is a good case of possible confusion with varying plumages. We are strongly inclined to acceptance of Mr. Stone's identification in view of his long familiarity with waterfowl and with the area. However, positive identification might be hazardous without the collected specimen in hand. It might be safest to let this one go by, hoping for more observations in the future. It would be a fantastic "first" for Wisconsin, whichever species it was. The Fulvous Tree Duck has never been recorded in the state; its normal range is no farther north than southern California and the gulf of Texas, but it has done considerable wandering in recent years. European Widgeons have been reported rarely in the state but only in spring migration; Wisconsin has never had a summer record.

Violet-green Swallows at Crex Meadows. These birds were first seen by Terry Ingram, Apple River, Illinois, editor of the **Inland Bird Banding News**. He reported his find to Norman Stone who found the birds on August 2, 1965. The two white patches on the back near the rump were clearly seen by both observers. On August 20, Mr. Stone again found the birds and this time was also able to note the irregular eyepatch with

the eye mostly within the white. The tails were noted to be shaped like Tree Swallows, and a faster wing beat than that of other swallows was observed.

It would seem, with all field marks noted and almost no likelihood of confusion with any other bird in any plumage, that this is a probable record—hypothetical, however, in the absence of photograph or specimen.

Blue Grosbeak in Door County? Two birds were reported on a telephone wire near Sister Bay on June 18. They were found between 7 and 8 in the evening. The observers first thought them to be Indigo Buntings, but then decided they were larger and had a larger bill. With only size to distinguish the two species, we believe it would be a mistake to report this find as a completely validated record.

Lark Bunting in Wood County. Don Follen has this to say of his observation on July 15: "I spotted this small black bird on a fence post at first and I stopped the car. As I did this the bird then showed the white in the wings and the first thing I thought of was it may be a blackbird with a mutant epaulette. The bird was much smaller than a blackbird though, more like a small female Bobolink. The tail did appear to be a bit longer than usual but the flying is also what got me. The closest thing I know of it resembled in flight would be the Rose-breasted Grosbeak, or the lobbing type of flight. It did have a typical short, stout

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bill and, in fact, looked too short to suit the rest of the bird." It was found in a grassland area of approximately 600 acres between several wooded areas. Sam Robbins accompanied Mr. Follen to the site later; was unable to find the bird but did state that it was suitable looking habitat for the Lark Bunting.

With the completeness of the description, it would seem that this is a valid sight record. There have been previous sightings of the Lark Bunting, particularly in the western part of the state, but, to our knowledge, none have appeared in the published records.

Ferruginous Hawk on Washington Island: While taking a summer bird count on Washington Island on June 24, Louise Erickson, John Saetveit and Kay Curtis spent 20 minutes watching a distinctive looking buteo circling in the thermals over Jackson Harbor. Mrs. Erickson sketched the ventral appearance on the spot, and in consulting Peterson's Western Guide later on, found the bird to match well the light phase of the Ferruginous Hawk. Describing the bird, she wrote: "The bird was a buteo, all whitish underneath, tail longer than Red-tail. The most conspicuous mark was a whitish area between the two dark parts at the wing tips. There was no dark part across chin, chest or belly. The legs showed up against the tail and were brownish or perhaps reddish brown. As he flew he looked strange; I knew I had not seen this kind of hawk here before. The only other mark we noticed, as he dipped slightly twice, was quite a bit of reddish on the back and shoulders. Tail plain, no banding." Wisconsin's few previous records have been from late fall and winter. Yet there are summer records from northern Illinois, suggesting the plausibility of this record.



The 1965 May Count

By THOMAS K. SOULEN

The spring of 1965 saw the largest number of organized May counts in Wisconsin, a total of 37. The force of about 250 observers who took to the field unearthed some 235 species of birds, and during the period there were miscellaneous observations of an additional 18 species.

Beginning this year, the May count period was established as May 5-20, the idea being that this period would continue to be the same year after year. Considering the vastly improved coverage of the state which we have now, having a period spanning something over two weeks makes sense, since the peak of migration may differ by 1-2 weeks from the southeast to the northwest corner of the state. Moreover, with an exceptionally early or late spring, the longer count period increases the chances of groups being out during the peak of the migration. One observer even felt that the period could be lengthened: Harold Lindberg said that having it last a few days later would have made it possible to locate considerably more in his far northeastern outpost of Marinette county. Actually, it is not the intent of those who establish May count

periods to be unduly restrictive. If it makes more sense to take a count in the period May 21-25, go ahead and do it. Even among this year's results we can find justification for taking a count at either end of the period rather than right in the middle; the two counts recording the highest numbers of species were taken on May 8 (Kenosha) and 22 (Racine).

Except for the usual widespread lack of documentation of late dates for some species (e.g., Hermit Thrush, Golden-crowned Kinglet, Rusty Blackbird, Slate-colored Junco, Tree and Fox Sparrow), the reports as a whole were well prepared. A very pleasant feature of compiling the counts this year was the fact that many groups kept careful track of the number of individuals of many or all the species which they saw. Of the 37 counts taken, no less than 16 were reported with the complete numerical tally, and an additional half dozen or so included some figures. This is a trend worth continuing and extending.

Racine: 161 species. May 22. The Hoy Bird Club scouted many areas of the county. Noteworthy species include Yellow-crowned Night Heron, Sandhill Crane, American Golden Plover, 143 Black-bellied Plover, Whimbrel, Barn Owl, Red-breasted Nuthatch, Winter Wren, Hermit Thrush, Prothonotary and Kentucky Warbler, Yellow-breasted Chat, and Orchard Oriole. 28 species of warblers. Reported by Ed Prins.

Kenosha: 157 species. May 8. Eleven observers located close to 10,000 individual birds. The more interesting species were four Yellow-crowned Night Herons, King Rail, 112 Black-bellied Plovers (early for such numbers), Yellow-billed Cuckoo, Pine Warbler, Yellow-breasted Chat, and Orchard Oriole. 27 warbler species. Reported by Louise Erickson.

St. Croix: 154 species. May 17. Sam Robbins and Tom Soulen surveyed various parts of the county. They located Red-throated Loon, Marbled and Hudsonian Godwit, Western Kingbird, Tufted Titmouse, Winter Wren, Blue-gray Gnatcatcher, Blue-winged Warbler, and Orchard Oriole. 25 species of warblers. Reported by Sam Robbins.

Appleton: 150 species. May 15. Six people searched a circle of radius 15 miles, centered in Appleton. Of note were Least Bittern, Ruddy Turnstone, Sanderling, 40 Short-billed Marsh Wrens, and Loggerhead Shrike. 22 warbler species. Reported by Daryl Tessen.

Milwaukee: 144 species. May 18. Fourteen observers scoured parts of Milwaukee and Ozaukee counties and found among other things Yellow-crowned Night Heron, Common Goldeneye, Bufflehead, Rough-legged Hawk, Sandhill Crane, and Orchard Oriole. 23 warbler species were seen. Reported by Mary Donald.

Green Bay 1: 144 species. May 16. Twenty members of the Green Bay Bird Club searched Brown county and the Fairland area of Door county and found Whistling Swan, Snow and Blue Goose, American Plover, Hermit Thrush, Pine Warbler, Harris' and Fox Sparrow (the latter probably an injured bird). 21 warbler species. Reported by Edwin D. Cleary.

Oconomowoc: 141 species. May 9. The S. Paul Jones Bird Club had a reasonably pleasant day and encountered Sandhill Crane, Yellow-billed Cuckoo, Screech Owl, Hermit Thrush (banded), Slate-colored Junco, and Fox Sparrow (banded). 23 warbler species. Reported by Ed Peartree.

Beloit: 140 species. May 9. Thirty-one members of the Ned Hollister Bird Club scoured Rock county from dawn to dusk. Of interest were Turkey Vulture, Orchard Oriole, Dickcissel, Lark and Harris' Sparrow. 22 warbler species. Reported by Mrs. Joseph Mahlum.

Green Bay 2: 138 species. May 9. The NE Wisconsin Bird group located 300 Ruddy Ducks, Goshawk, Pigeon Hawk, Loggerhead Shrike, and Pine Warbler. 23 warbler species. Reported by Tom Erdman.

Douglas County: 128 species. May 15. Nine people were out in disagreeable weather and, among others, noted the following species: Bufflehead, Common Merganser, Piping Plover, Common Raven, Mockingbird, Evening Grosbeak, Tree Sparrow, and 11 Harris' Sparrows. 18 warbler species. Reported by Richard F. Bernard.

Oshkosh 1: 121 species. May 12. Ten identified observers and a University ornithology class spread over a circular region extending $7\frac{1}{2}$ miles from the city. Among

the 3,400 individuals they found were these interesting species: Canvasback, Pigeon Hawk, and White-rumped Sandpiper. 22 warbler species. Reported by Mrs. Fred W. Riddell.

Madison 1: 117 species. May 9. A rather small group of six people were out and observed among other things 15 American Golden Plovers and a Red-breasted Nuthatch. 13 warbler species. Reported by Mary Walker.

Sauk City 1: 116 species. May 16. Steve Martin searched the river bottom and the Honey Creek area. He found Canada Goose, Baird's Sandpiper, and Dickcissel. 19 warbler species.

Madison 2: 113 species. May 8. Paul Krombholz and Marilyn and Chuck Sontag covered selected areas in and near Madison and found Canvasback and Hermit Thrush. 22 warblers. Reported by Paul Krombholz.

Wausau: 112 species. May 23. Twenty-one members of the Wausau Bird Club searched a 15-mile radius circle centered in the middle of the city. The eight parties found 3,600 individuals and these interesting species: Canada Goose, Red-breasted Nuthatch, Blue-gray Gnatcatcher (with nest), Pine Siskin, and Slate-colored Junco. 13 warbler species. Reported by Emily Bierbrauer.

Oshkosh 2: 107 species. May 8. Four observers covered the same area as that of the Oshkosh 1 count except four days earlier. Their most unusual observation was of a Cattle Egret (excellent documentation). 17 warbler species. Reported by Mrs. Fred W. Riddell.

Waukesha: 105 species. May 8. Twenty observers of the Benjamin F. Goss Bird Club covered various portions of the county. Of interest on this count were Common Loon, Screech Owl, and Prothonotary Warbler. 21 warbler species. Reported by Clarence Anthes.

Stevens Point: 101 species. May 15. The WSO convention provided the opportunity for the first May survey of the area in some time. Of note were Yellow-bellied Sapsucker and Brown Creeper. 17 warbler species.

The 19 additional counts (many brief and/or local) were in the following areas: **Peshigo** (95 species, Harold Lindberg), **Grant county** (94 species, SW Wisconsin and Dubuque Audubon Clubs), **Yellowstone Lake** (92 species, Helen Northup and the N. R. Bangers), **Fond du Lac** (88 species, Carl and Rockne Knuth), **Antigo** (83 species, Antigo Audubon Club), **Kiel** (82 species, Myron Reichwaldt), **Milwaukee** (Whitnall Park, 82 species, Elmer W. Strehlow), **Honey Creek** (82 species, Jim Fuller, Harold Kruse, Ed Peartree), **Sheboygan 1** (78 species, Harold Koopman), **La Crosse** (72 species, Howard Young), **Vernon county** (a farm, 68 species, Viratine Weber), **Pulaski** (53 species, Rev. Melvin Wierzbicki, Bro. Daniel Poliski), **Sheboygan 2** (53 species, Gordon and Carol Bly, M. S. and Locile Thomson), **Vernon county park** (49 species, Margarette Morse), **New Berlin** (44 species, the D. O. Van Denburgs), **Price county** (34 species, Alice Vincent), **Sauk City 2** (mostly yard, 32 species, the Henry Koenigs), and **Evansville** (25 species, Mrs. John Brakefield).

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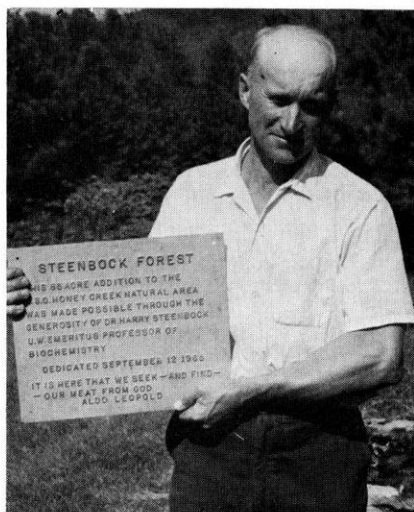
CORRECTION

The Varied Thrush reported as being present in Burnett county in the spring of 1965 (1966 Passenger Pigeon 36) actually had wintered the previous year, being present from November 12, 1963, until March, 1964.

THE STEENBOCK FOREST

By HAROLD KRUSE

The dedication, in September of 1965, of the 85-acre Steenbock addition to the Honey Creek Natural Area brings to 210 acres the lands owned by WSO at Honey Creek. An additional 10 acres of marshland is leased, and, by consent of landowners in the area, WSO members and friends are free to hike and bird anywhere in the valley or adjoining bluffs.



HAROLD KRUSE HOLDS THE BRONZE PLAQUE
FOR THE STEENBOCK FOREST.

While no further lands are for sale at present, it may be possible and desirable at some future date to round out the WSO Natural Area through the purchase of choice lands lying east and north of the present holdings.

Robert McCabe, Arol Epple, and Frank King, speaking at the dedication program, all emphasized the importance of preserving representative portions of Wisconsin's native landscape. They commended WSO for its timely action in establishing the Honey Creek Natural Area, a project which has now grown into the larger Baraboo Hills Natural Areas system, including over 1,000 acres of choice natural lands under the protection of WSO, the Nature Conservancy, and enlightened private landowners.

The Baraboo Hills Natural Area contains between 400 and 500 native plant species and offers some of the best birding in southern Wisconsin, with over 100 summer resident species having been recorded over the past 10 years. It is also of prime interest to geologists, nature photographers and hikers. A woodland hiking trail, to be known as the Aldo Leopold Trail, is now under construction by the John Muir Chapter of the Sierra Club. It will eventually link all of the natural areas and extend eastward over the Baraboo range toward Portage. The emphasis in managing the Honey Creek and Baraboo Hills Natural Areas will be on preserving the natural landscape, with an absolute minimum

of so-called "improvements". Camping and picnicking facilities are available at various public and private parks and campgrounds in the area, and activities will be limited on the natural areas themselves, as will any other activities of man which threaten to seriously disturb the natural ecology of the area.

WSO's Honey Creek Natural Area project began in 1958, with the leasing of the 30-acre hemlock-hardwood tract along Honey Creek two miles northwest of the village of Leland in Sauk county. This tract was purchased by the Society in 1960. In 1961, an appeal to WSO members and friends for contributions to purchase the Honey Creek Bog brought an immediate and generous response, and this fine 55-acre tamarack and alder bog was added to the natural area. A second appeal in 1962 brought in the 40 acre sandstone cliff area south of the bog, including some fine examples of dry or "goat" prairie.

In 1954, a most generous gift from Dr. Harry Steenbock, UW Professor Emeritus of Biochemistry, enabled the Society to purchase the beautiful 85-acre wooded bluff lying north of the original tract. The Steenbock addition extends from Honey Creek on the west to Highway PF on the east, and includes the second hemlock cliff as well as a fine stand of red oak and mixed hardwoods. The woodland abounds in birds and wildflowers. A third appeal for contributions from WSO members to match Dr. Steenbock's generosity has brought a good response, and has provided a reserve for possible future purchases at Honey Creek.

Other contributions to the Honey Creek Natural Area fund are always welcome.

A list of all who have made contributions to the fund will be published in a future issue of **The Passenger Pigeon**.

Loganville, Wisconsin 53943



STEENBOCK GIFT TO FINANCE WILD RIVERS BIRD STUDY PROJECT

A \$2,500 grant for the study of birds in the wild rivers area of north-east Wisconsin was made in early May by WSO to the Wisconsin Academy of Sciences, Arts and Letters. The grant was made possible because of the generous gifts of Dr. Harry S. Steenbock, professor emeritus at the University of Wisconsin in Madison, to the Society.

The grant will be used by the Academy for research on birds in the Pine, Popple, and Pike River watersheds in Florence, Forest and Marinette counties. The project will be directed by Howard Young, Wisconsin State University, La Crosse, and Robert McCabe, University of Wisconsin, Madison.

Very little work has been done toward surveying the flora and fauna of the wild rivers. The Academy's research project would attempt to assess the bird species nesting in the area and possibly consider in-depth

studies of one or two species. The research findings might possibly be ready for book form by 1970.

During the early 1940's, the Academy conducted similar research on the Brule River, and has also been active in legislation for the wild rivers project as well as other programs related to conservation of natural resources.



NEW EDITORS

A few new names are going to appear regularly on the pages of this magazine in forthcoming issues. They will be seasonal editors for the autumn and winter seasons and a book review editor.

Francis T. Ratliff's name has appeared in the book review feature in recent issues. He has now accepted the task of book review editor. Francis is research director, Rhinelander Division of the St. Regis Paper Co. at Rhinelander. He's had wide bird watching experience in his native state of Louisiana, the east coast (especially in New Jersey), and Wisconsin.

Daryl Tessen is taking over as autumn seasonal editor in place of Charles A. Kemper. For a number of years Daryl has reported his bird observations from the Appleton and Fox River Valley area. His interest in birds dates back to early childhood. When he was six years old he became a member of the Junior Audubon Club at Appleton under the leadership of the late Mrs. Walter Rogers. Daryl graduated from Lawrence University and is working toward a Master's Degree in biological sciences at Colorado State University during the summer months. During the school year he teaches biology at Fremd High School, Pallatine, Illinois.

William Hilsenhoff, Madison, replaces Harold A. Bauers as winter seasonal editor. Bill is a professor in the Entomology Department at the University of Wisconsin where he is conducting research on aquatic insects. At the present time he is trying to develop a biological control for the flies in the Lake Winnebago area. He is also investigating the possible use of insects as indicators of water pollution. He has been a WSO member since 1947 and has contributed field note observations for a number of years.

Sincere thanks are due Charles Kemper and Harold Bauers for their faithful efforts during past years. Kemper's first autumn season summary appeared in the Summer, 1959, issue, and Bauer's initial winter season summary was printed in the Summer, 1961, issue. In this span of time both have made substantial contributions in recording the ebb and flow of bird populations in Wisconsin. Again—a sincere thanks to both men. —Nils P. Dahlstrand.



FIELD NOTES

By HAL and NANCY ROBERTS

Summer Season

June 1-August 15, 1965

The summer of 1965 was, in general, quite moderate in temperature and somewhat wetter than normal. There were very heavy rains in some areas which may have caused flooding in some nesting areas. The high waters undoubtedly persuaded some usually migrant waterfowl to remain for the summer.

An interesting quotation from Sam Robbins: "It looks to me as if a change has come over the summer habits of some of our herons. Twenty years ago the Common Egret was extremely scarce as a breeder in Wisconsin, but would often show up as a late summer wanderer—often accompanied by a few immature Little Blue Herons and occasionally a Snowy Egret—as something of a "white heron influx" from late July to early September. The Common Egret is now pretty well established in breeding colonies at Horicon and along the Mississippi River as far north as Prescott and Hastings, Minnesota. But at the same time the numbers of postbreeding wanderers have dropped greatly; very few wandering Egrets have been reported in recent years, and I cannot recall any late summer Little Blues or Snowies in the last few years. So far this summer, the only "white herons" that have been observed, so far as I know, have been the birds on the Horicon and Mississippui River breeding grounds."

Another quotation, this time from the **Badger Birder** of September 1965, concerning a changing summer population: "Clarence Smith, Game Manager on the state's 90 square mile Meadow Valley Wildlife area reports a very good year for Wisconsin's growing flock of wild turkeys. Prior to this year the largest young turkey brood numbered 12. This year two broods of 15 have been recorded. The average brood this year was 10.4 which is almost phenomenal for turkey broods."

The highlights of the season's records follows:

Red-throated Loon: Two birds were seen in Douglas county at the mouth of the Brule River on June 30. Six Common Loons were swimming nearby, affording excellent comparison (Sam Robbins, Bernard Klugow, Baillie). A most unusual record for this area and the only one in the state for the summer period this year.

Eared Grebe: One at Goose Pond, Columbia county, was seen on June 16 and July 5 (William Hilsenhoff) and again on July 29 (Robbins).

Double-crested Cormorant: In Douglas county June 8 to 16 (Richard Bernard), Burnett county on July 16 (Norman R. Stone).

Common Egret: Arrived in Vernon county on June 13 and reached a maximum of about 100 by July 27 (Margarette Morse). Reported at Crex Meadows, Burnett county, on August 30 (Stone) and Pierce county August 4 (Robbins).

Yellow-crowned Night Heron: Nested again this year in Racine county where four young birds were seen (William Pugh). Two were seen at La Crosse on June 19 by members of the La Crosse Audubon Society.

Least Bittern: Reported in Brown county on August 14 (Ed Paulson), and in Washburn county on June 30 (Terry Ingram).

Whistling Swan: One bird in Oconto on June 17, two there on June 24 (Carl Richter); one in Marinette county on July 5 (H. L. Lindberg).

Blue Goose: Noted in Columbia county on June 5 (Hilsenhoff).

Gadwall: Two birds in St. Croix county until July 19 (Robbins). Noted in Brown county July 29 (Paulson), one in Racine July 15 (Bill Weber). Louise Erickson and John Sactveit counted 11 birds at Washington Island, Door county, on June 24, and 9 birds on nearby Rock Island on June 26.

European Widgeon: See "By the Wayside."

Redhead: One in St. Croix county throughout the period (Robbins) as was one in Columbia county (Hilsenhoff, Robbins).

Ring-necked Duck: Nesting observations in Burnett and St. Croix counties (Stone, Robbins); also present in Columbia county (Hilsenhoff).

Common Goldeneye: Present at Superior from June 16 on (Bernard), last seen in St. Croix county June 4 (Robbins). Five noted in Door county June 24 (Erickson).

Goshawk: Located on Madeline Island, Ashland county, on June 12 and 13 (Bernard).

Sharp-shinned Hawk: Three reports; Douglas county June 30, Bayfield county August 11 (Robbins) and Green Bay June 14 and 21 (Al Holz).

Rough-legged Hawk: A melanistic bird found in Wood county and observed for nearly two hours on June 8 (Don Follen).

Ferruginous Hawk: Washington Island, Door county, June 24 (Erickson, Sactveit, Kay Curtis). See "By the Wayside."

Bald Eagle: Very few summer observations; Bayfield county July 27 and August 13 (Bernard), Vilas county (Alfred Bradford, Mrs. John Brakefield), Washburn county on August 10 and Burnett county August 11 (Mrs. J. A. Riegel), Price county (Alice Vincent) and Oconto county on August 5 (Richter).

Peregrine Falcon: None. This bird was last reported in the summer field notes of **The Passenger Pigeon** in 1962 when one was seen in Waukesha by Peartree. Until 1956 there were consistent reports each year; none from that year until the one mentioned in 1962.

Pigeon Hawk: No summer season reports since 1949.

Sandhill Crane: Four in Crex Meadows on August 30 (Stone), possible nesting in Racine on June 14 (Fiehweg). Nesting at Portage where up to 15 young were seen (Mrs. Carl Balliet). Five noted in Marathon county on June 15 (Emily Bierbrauer, Joan Williams).

King Rail: Reported only at Horicon Marsh, Dodge county (Robbins, Mary Donald); and at Kenosha (Erickson).

Yellow-Rail: This rare bird was found in Oconto on June 17 (Richter) and at Horicon on July 21 (Dr. R. B. Dryer).

Semipalmated Plover: Last spring migrants in Columbia county June 16 (Hilsenhoff); first fall arrivals were 16 in Racine county on August 1 (Ed Prins).

Piping Plover: Found at Barkers Island, Superior, on June 7 (Bernard) and one in Racine on August 1 (Prins).

Golden Plover: Noted in St. Croix county on June 4 (Robbins).

Black-bellied Plover: Three late birds in Racine on June 10 (Fiehweg), early fall arrivals in Burnett county August 12 (Stone).

Ruddy Turnstone: Late departures in Manitowoc on June 5 (John Kraupa) and St. Croix June 9 (Robbins). Early fall arrival in Milwaukee on August 6 (Donald).

Common Snipe: An unexpected observation on July 29 in Rock county (Frances Glenn, Bernice Andrews and Mrs. Amy Gardner).

Solitary Sandpiper: An early fall migrant in Columbia county on June 30 (Mark Tomlinson), was followed by arrivals in Bayfield county July 20 (Bernard) and in Racine on July 21 (Weber).

Willet: Two observations in Racine; on July 12 (Prins) and again on August 12 (Don Hanbury).

Greater Yellowlegs: Earliest date for fall birds was July 5 in St. Croix county (Robbins) and at Goose Pond, Columbia county (Hilsenhoff).

Lesser Yellowlegs: Spring migrants until June 10 in St. Croix county where they first returned on June 28 (Robbins). Many have spent the summer in Columbia county

where they were reported by Hilsenhoff and Mark Tomlinson.

Pectoral Sandpiper: Lingered in St. Croix county until June 11 (Robbins); first fall returnees were noted in Vernon county July 27 (Morse). A carefully noted observation in Waukesha county on June 24 at Genesee Lake by Bielefeldt is unusual there at this date.

White-rumped Sandpiper: Last noted in St. Croix county on June 13 (Robbins). None had returned by the end of our period.

Baird's Sandpiper: Reported in Douglas county on June 7 (Bernard) and three observations in Racine where 3 were seen on July 13, one on July 21 and one on August 1 (Weber, Prins).

Least Sandpiper: Two spring migrants noted on June 5 in Racine county (Weber). First fall migrants in St. Croix county on June 29 (Robbins).

Dunlin: Last spring birds in Racine on June 13 (Fiehweg). Fall birds noted there on July 8 and 10 (Weber).

Dowitcher: Noted in Columbia county June 30 (Tomlinson). First fall migrants in Racine on July 5 (Weber).

Stilt Sandpiper: Four birds in Dodge county July 30 (Robbins and Barger). Two other reports; one at Racine August 3 (Weber) and four in St. Croix county August 8 (Robbins).

Semipalmated Sandpiper: Last noted on June 13 in St. Croix county (Robbins); fall migrants arrived in Brown county on July 16 (Paulson).

Western Sandpiper: One on July 21 (Weber) two on July 25 (Prins) and one on August 3 (Weber) in Racine.

Marbled Godwit: Found at Barkers Island, Superior, on June 16 (Bernard).

Sanderling: In Manitowoc on June 5 (Kraupa). Fall birds arrived in Racine on July 13 (Weber, Prins).

American Avocet: One in fall plumage at Crex Meadows on August 22 (R. N. and N. R. Stone).

Wilson's Phalarope: Noted during the summer period in Marinette county (Lindberg) and on June 15 in Oconto (Richter). Elsewhere, fall birds were noted in Columbia county on July 5 (Hilsenhoff), July 29 (Robbins), July 14 in St. Croix county (Robbins). Also in Dane county July 30 (Robbins and Barger).

Bonaparte's Gull: Surprisingly large numbers were still present in Racine in late June (Erickson). Noted in Douglas county from June 7 on (Bernard). Twenty-two in Oconto on June 29 (Richter). Fall arrivals in Manitowoc on August 21 (Lindberg).

Laughing Gull: In Racine, one was seen June 5 (Louise Erickson), two July 4 (Weber), one July 7 (Weber), one July 25 (Fiehweg) and one August 1 (Weber).

Little Gull: One at Wind Point, Racine, on July 20 was carefully observed (Weber).

Forster's Tern: June migrants noted in Douglas (Bernard), Sheboygan (Harold Koopman), Waukesha (Bielefeldt) and Racine (Fiehweg) counties.

Common Tern: An inland record in Adams county July 24 (Robbins).

Caspian Tern: Noted in Douglas county June 7 (Bernard), St. Croix county July 23 (Robbins), Marinette where flocks of about 75 were present with other terns and gulls (Lindberg), Brown county August 16 (Paulson) and Racine county.

Yellow-billed Cuckoo: One seen in Price county on June 21 by Hilsenhoff was the first seen in that area by him and is unusually far north. Also noted June 15 in St. Croix county (Robbins).

Screech Owl: Noted in Columbia county (Tomlinson), Milwaukee (Donald) and Rock county (Mrs. Joseph Mahlum; Glenn, Andrews and Gardner).

Long-eared Owl: This rare summer resident was found in Douglas county June 29 (Robbins).

Saw-whet Owl: Two birds located north of Drummond in Bayfield county on July 20 where they were feeding on butterflies in the daytime (Klugow, Bernard).

Pileated Woodpecker: Southernmost record was from Vernon county on June 16 (Viratine Weber).

Red-bellied Woodpecker: Northernmost records from St. Croix, Pierce, Pepin and Buffalo counties (all Robbins), Burnett county (Helen Caldwell), and Washburn county (Ingram).

Yellow-bellied Sapsucker: Nesting records in northern counties including one with five young in Forest county June 6 (Richter). Noted in Vernon county until June 29 (V. Weber).

Black-backed Three-toed Woodpecker: Present in Douglas county where it was seen on June 30 (Robbins, Klugow, Baillie and Degerman).

Western Kingbird: Nested again in St. Croix county where it was located on July 22 (Robbins).

Phoebe: Noted strangely absent in Forest county (Martha and Roy Lound); elsewhere populations seemed usual.

Yellow-bellied Flycatcher: A first summer record in Price county for Hilsenhoff, also noted in Forest county (Lounds), St. Croix and Douglas counties (Robbins).

Acadian Flycatcher: An unusual record of one singing at Hudson on July 22 (Robbins). Five found at Parfrey's Glen, Sauk county, on July 3 (Chuck and Marilyn Sontag, A. Kromholz and Peggy Crissman).

Olive-sided Flycatcher: Found in Douglas, Forest, St. Croix and Door counties.

Violet-green Swallow: At Crex Meadows August 2 and 20 (Pratt and Stone). See "By the Wayside."

Gray Jay: Noted in Vilas county July 3 (Tomlinson), Forest county (Lounds) and Sawyer county August 12 (Robbins).

Boreal Chickadee: Found in Forest county (Lounds), Sawyer county (Robbins) and Langlade county (Lynn Schimmels).

Tufted Titmouse: Noted in the western part of the state in St. Croix, Pierce and Vernon counties and in the south in Dane and Waukesha counties.

Red-breasted Nuthatch: A number of reports in northern counties. More remarkable was the bird that stayed in Milwaukee all summer (Strehlow, Donald). Fall migrants reached Rock county August 11 (Melva Maxson), and Dane county August 13 (Ashman).

Brown Creeper: Found in Douglas county, Bayfield and Forest counties by several observers. Also in Brown county June 16 (Paulson).

Winter Wren: Reports from Douglas (Robbins), Vilas (Mrs. John Brakefield, Tomlinson), Door (Erickson) and Forest counties (Lounds).

Bewick's Wren: One in St. Croix county where it was present until July 8 (Robbins).

Carolina Wren: Noted in Dane county July 22 (Ashman).

Mockingbird: One noted at Bailey's Harbor, Door county from July 7 on (Roy Lukes). One in Racine on June 7 and Jefferson county July 7 (Donald).

Swainson's Thrush: A surprising number of observations of this rare summer resident; one in Racine on June 17 (Fiehweg and Weber) which may have been an unusually late migrant. July records in Douglas and Bayfield counties (Bernard) and Sam Robbins reports very early fall migrants in St. Croix county on August 18, in Pepin county on August 4 and in Dane county on July 29.

Bluebird: Reported as having been seen during the summer period by over two-thirds of the observers. Alfred Bradford notes that they were very scarce in Outagamie county and H. L. Lindberg comments that the Marinette population has remained static.

Blue-gray Gnatcatcher: Present in St. Croix county until July 22 (Robbins). Also noted in Waukesha and Columbia counties.

Golden-crowned Kinglet: Three observations; present in Price county (Hilsenhoff), Forest county (Lounds) and Sawyer county on August 12 (Robbins).

Ruby-crowned Kinglet: A record of this species in Douglas county from June 16 on (Bernard).

Bell's Vireo: Noted in Trempeleau county on August 4. Robbins heard at least five singing males in a locust grove where he has found this species each year for several years. Two found near Blanchardville, Lafayette county, June 19 (Barger).

Solitary Vireo: Recorded in Forest county by the Lounds and in Oneida, Douglas and Sawyer counties by Robbins.

Prothonotary Warbler: Present in Buffalo county on August 4 (Robbins), Columbia county on June 20 (Tomlinson), Jefferson county on June 10 (Ashman), Rock county on June 3 (Glenn, Andrews and Gardner), and Marquette county on June 20 (the Fred Shepherds).

Blue-winged Warbler: Reports from Columbia (Tomlinson), Jefferson (Richard Sharp), Ozaukee (Donald), Dane (Hilsenhoff) and Waukesha (Bielefeldt) counties are a bit out of the usual southwestern Wisconsin range of this species.

Brewster's Warbler: A male singing Blue-winged Warbler song at Hudson. Clearly seen at 35 feet, noted white breast and clear white throat (Robbins). Another was carefully observed in Sauk county on June 20 (Steve Martin).

Tennessee Warbler: An early fall migrant in Dane county on July 17 (Ashman).

Magnolia Warbler: Found in Forest (Lounds), Douglas and Sawyer (Robbins) counties and in Outagamie county on June 4 (Daryl Tessen).

Black-throated Blue Warbler: Roy Lound says of this unusual finding: "We had five singing male Black-throated Blue Warblers, four of which we saw. This species may not be as rare as formerly thought, at least in northeastern Wisconsin. It does, however, require a habitat exactly suited to its liking, so it is strictly localized."

Cerulean Warbler: Reports from Vernon county (Morse), Sheboygan county on July 7 (Koopman), Waukesha county and Jefferson county on July 5 (Bielefeldt). Birds were again present at the Wisconsin Audubon Camp in Washburn county (Ingram).

Blackburnian Warbler: Last spring migrant in Sheboygan June 3 (Koopman). Noted present as expected in northern counties throughout the period.

Bay-breasted Warbler: Early fall migrant in St. Croix county on August 8 (Robbins).

Northern Waterthrush: Found in Douglas county June 30 and Dodge county July 30 by Robbins. Carl Richter located a nesting in Forest county on June 4.

Louisiana Waterthrush: Reported in Adams county on July 30 and Pepin county August 4 (Robbins), Vernon county to June 25 (V. Weber) and Dane county July 5 (Ashman).

Kentucky Warbler: Dane county, June 25 (Ashman).

Connecticut Warbler: Found in Forest county during the period from June 27 to July 4 (Lounds) and in St. Croix county until June 2 (Robbins).

Yellow-breasted Chat: Noted in Waukesha county on June 30 (Mrs. D. O. VanDerburg) and in Pierce county on August 4 (Robbins).

Hooded Warbler: One in the University Arboretum at Madison on July 29 (Robbins).

Wilson's Warbler: Late straggler still singing at Racine on June 17 (Erickson, Fiehweg).

Canada Warbler: Late spring migrant in Sheboygan on June 3 (Koopman) and in Racine on June 5 (Louise Erickson). Present during the period in northernmost counties and a carefully observed nesting east of Antigo where five nestlings were last seen on June 22 (Schimmels).

Yellow-headed Blackbird: Bielefeldt reports the population in Waukesha county lower than usual. Good nesting season at Peshtigo where last young fledged about July 20 (Lindberg).

Orchard Oriole: Found by Sam Robbins in St. Croix county until July 14 and in Trempeleau county on August 4. Members of the La Crosse Audubon Society found birds on Summer Bird Counts in La Crosse and Onalaska.

Brewer's Blackbird: Reported only in northernmost counties.

Blue Grosbeak: See "By the Wayside."

Dickcissel: Numbers reported down in Marinette county where none were found (Lindberg) and in Rock county (Glenn, Andrews and Gardner). High locally in Waukesha (Bielefeldt).

Evening Grosbeak: Three nests were located at the Brule Ranger Station, Douglas county. One had two young, another four. At least 16 Grosbeaks observed there at one time. Young birds noticed out of the nest by June 20 (Baillie, Klugow, Bernard). A flock of about 20 at Kohler-Peet swamp in Burnett county on June 30 (Mrs. Helen Caldwell).

Pine Siskin: Noted in Douglas county August 6 and Bayfield county August 8 (Bernard). Also found in Price county on June 28 (Alice Vincent).

White-winged Crossbill: Several birds in Price county on June 7 (Vincent) and in Douglas county June 30 (Robbins, Baillie, Degerman and Klugow).

Lark Bunting: Noted in Wood county near Arpin on July 15 (Don Follen). See "By the Wayside."

Lark Sparrow: Sam Robbins furnished the only reports; St. Croix, Pierce and Trempeleau counties.

Slate-colored Junco: Found only in Bayfield county (Bernard), Vilas county on July 4 (Tomlinson) and in Forest county (Lounds).

Clay-colored Sparrow: In addition to the expected observations in the north and central part of the state, one was seen in Rock county on June 17 (Glenn, Andrews and Gardner).

White-throated Sparrow: A late spring migrant in Rock county on June 2 (Maxson).

Lincoln's Sparrow: Lounds report finding none in Forest county where they have usually found them.



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