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A MAGAZINE OF WISCONSIN BIRD STUDY



*The  
Passenger  
Pigeon*

*Summer, 1972*

VOLUME 34, NO. 2

COMMON LOON

Photo by Michael E. Kohel

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# IN THIS ISSUE

	Page
Migration and Nesting Patterns of The Common Loon in Wisconsin, 1970 .....	55
By Michael E. Kohel	
Behavioral Dominance and Ecological Segregation in Sparrows .....	58
By Mary F. Willson	
Report of the 1971 Bird Survey of the Fox River Sanctuary, Waukesha, Wis. ....	62
Request for Cattle Egret Records .....	64
Breeding Bird Community of a Monotypic Stand of River Bulrush .....	65
A Partial List of the Parasites of the Ruffed Grouse .....	70
By P. V. Vanderschaegen	
Field Notes .....	74
By Hal and Nancy Roberts	
Letters to the Editor .....	82, 83, 84, 85
To All Great Blue Heron Watchers .....	86
Book Reviews .....	87, 88

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# Migration and Nesting Patterns of The Common Loon in Wisconsin, 1970

By MICHAEL E. KOHEL

The author was born and raised in Milwaukee and is a 1965 graduate of Pulaski Senior High School. He went to the Wisconsin State University-Stevens Point, and graduated with a B.S. degree in Water Quality Management and Natural Resources Management in 1971.

He is presently employed by the U. S. Forest Service in Ely, Minnesota and hopes to obtain a permanent position with them in the near future.

His interests are in Ornithology, wilderness canoeing and camping, nature photography, and snow skiing.

Submitted in partial fulfillment of the requirements for the Bachelor of Science degree in the School of Applied Arts and Sciences  
Wisconsin State University  
Stevens Point  
May, 1971

The Common Loon (*Gavia immer*), sometimes called the great northern diver, is one of two raptorial species of the genus *Gavia*, order Gaviiformes found in the state of Wisconsin. The allied species found to a lesser degree is the Red Throated Loon (*Gavia stellata*) or Red Throated Diver.

The primary purpose of this study is to extrapolate from data received the spring and fall migration routes of *Gavia immer*. The secondary purpose is to report on various nesting habits of *Gavia immer*.

The methods employed in obtaining data were supplied by two agencies and their cooperators. These two agencies being the Bureau of Game Management and the Department of Natural Resources; and, the Wisconsin Society for Ornithology.

By March 20, 1970 all mailings of survey forms were completed. Summarization of the reports was begun in April, 1971 resulting in the following.

Of the 72 counties in the state, 52 (72.2%) of these are represented in this study, with a total of 104 persons reporting.

Out of the 52 counties represented in this study, 17 (32.7%) reported observing no loons during the 1970 season, and 20 (38.5%) were not represented in this study. This breakdown can be extrapolated from fig. 5.

The dispersion of cooperators was in the northern and central sections of the state and along the major waterways (i.e. Lakes Michigan and Superior and the Wisconsin, Mississippi, St. Croix and Chippewa Rivers). This provided a very good physiographic sampling and thus yielded some reasonable and accurate spring arrival routes as depicted in fig. 6A by the arrowed movement, as drawn from data appearing in fig. 6B.

Of major significance in fig. 6A is the darkened line termed the 'transition boundary'. Counties north of this line reported loon sightings and nesting data. Those counties south of the boundary reported seeing

no loons during the spring arrival period and reported no nesting loons. The dotted line adjacent to the waterways indicate sections where loons were sighted throughout the spring migration and summer nesting season.

A map representing the fall migration out of the state could not be constructed due to the fact that the loons migrated from smaller to larger bodies of water as the waterways began freezing over. Therefore, you have a very random movement from small lakes to larger lakes and rivers, and ultimately to Lake Michigan. This random movement was revealed after 21 (40.4%) of the 52 counties represented reported on the fall migration. Of these 21 counties 9 (42.9%) reported no loons observed. These nine were: Brown, Calumet, Dane, Dunn, Eau Claire, Rock, Sauk, Sheboygan, and Waushara.

The fall departure ran in an east-southeasterly direction toward Lake Michigan, except on the state's westerly boundary waters (i.e. Mississippi and St. Croix Rivers) where the movement is southward to waterways bordering Buffalo, Treadmepealeau, La Crosse and Vernon counties, and then eastward to Lake Michigan. The loons arrived and departed from the southern half of the state's eastern boundary along Lake Michigan.

Of the 21 counties representing fall departures and nesting data only 6 (28.6%) reported nesting data. A summation of this data can be found in fig. 7. As one can depict from this figure, the observations were very random due primarily to the difficulty encountered in locating a nest and secondly, the great amount of time required for accurate observations.

In conclusion, the investigator would like to summarize the forementioned material and interject suggested wildlife management techniques for future consideration.

1. Spring migration routes as depicted in fig. 6A are as accurately based as possible from data appearing in fig. 6B. The investigator feels that an adequate number of samplings was obtained, and that a decidedly accurate migration map resulted.
2. The significance of the 'transition boundary' should not be minimized, as the investigator feels this boundary will move northward due to urban sprawl and development. Thus future large scale studies should be conducted into all aspects of ethology of the common loon.
3. A program of constructing man-made nesting islands should be enacted in selected northern sections of the state (i.e. National Forests and State Preserves) to ensure that the species will remain and proliferate in the state.
4. Very good protective regulations now exist for the Common Loon; however, more rigid law enforcement measures are needed to protect the Common Loon from becoming an uncommon visitor to the northern two-thirds of the state, as it has become in the southern third.
5. The public, as a whole, must develop a conservation ethic and understanding that they must live with the wildlife that surrounds them, and not be a product of their destruction.

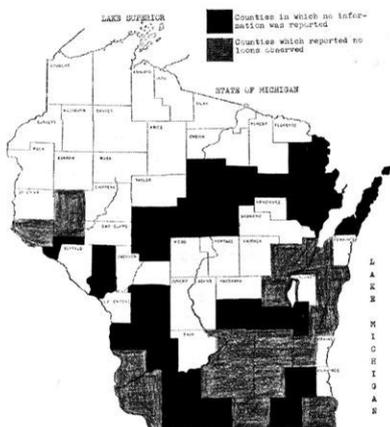


Figure 5

FIGURE 5



Figure 6a

FIGURE 6A



Figure 6b

FIGURE 6B

NESTING DATA

County	# of Nests Observed	# of Eggs Laid	# Successfully Hatched	Location of Nest
Ashland	1	?	1*	Unknown
Bayfield	1	2	2	Island
Iron	2	2	2	Unknown
		?	1	Unknown
Oneida	1	2	0**	Island
Price	2	2	1	Island
		?	1*	Unknown
Vilas	2	1	1	Mainland
		2	2	Island

\* Indicates that number of young were spotted with parent. However, other loons have been successfully hatched but were not seen at the time of observation.

\*\* Nest predation. Predator thought to have been an otter or raccoon.

FIGURE 7

ACKNOWLEDGEMENT

The completion of a study of this kind depends upon the assistance and cooperation of many persons. The investigator wishes to express his sincere appreciation to the Wisconsin Society for Ornithology and to Mr. Norval Barger and Mr. Walter Scott of the Department of Natural Resources, without whose assistance this study would not have been possible.

Special thanks is given to Mrs. Judith P. McIntyre and Dr. Frederick M. Baumgartner for their assistance and encouragement in the preparation of this paper.

# Behavioral Dominance and Ecological Segregation in Sparrows



MARY F. WILLSON

Mary F. Willson was born in 1938, grew up in Baraboo, Wis., where her family still lives. She went to Grinnell College in Iowa (BA, 1960), received her Ph.D. at the U. of Washington, 1964. She currently teaches ecology and natural history at the U. of Illinois. Her interests include back-packing, canoeing, jewelry-making, sewing, gardening.

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Ecological isolation of sympatric, closely-related species is a common subject of study today (e. g. Lack 1971). In some cases segregation may be reinforced by behavioral means, i. e. aggression in some form [such as interspecific territoriality] (Orians & Willson 1964, Willson 1967, but see also Murray 1971); or perhaps a less complex dominance interaction in which one individual supplants another.

Dominance orders are known to occur within conspecific flocks of sparrows (e. g. Sabine 1949) and seem to affect winter survival of birds (e. g. Fretwell 1968, 1969) and access to preferred food in laboratory rhesus monkeys (Warren & Maroney 1958). Interspecific manifestations of dominance are expected to be less frequent than intraspecific ones, since interspecific competition is generally supposed to be less intense than among conspecifics, and Grant (1966) found a much lower occurrence of conflict between three species of sparrow than in conspecific encounters. Furthermore, intraspecific dominance orders may be upset in the presence of another species (Sabine 1949).

Nonetheless, interspecific dominance, if and when it occurs, could reasonably be expected to affect foraging of species that encounter each other on their feeding grounds. The effects of such dominance would

presumably be most important, and the exercise of dominance most evident, at times when food is scarce or hard to find, and certainly need not be observable in all circumstances. Grant (1966), for example, found no evidence that behavioral dominance affected foraging in two species-pairs in a set of preliminary experiments.

The potential for continuing behavioral reinforcement of ecological segregation remains, however, and with these considerations in mind, several North American species of sparrows were observed in the laboratory and the outcome of interspecific encounters tallied (Table 1). The species used were Fox Sparrow (*Passerella iliaca*), Song Sparrow (*Melospiza melodia*), Swamp Sparrow (*M. georgiana*), Slate-colored Junco (*Junco hyemalis*), White-throated Sparrow (*Zonotrichia albicollis*), and Tree Sparrow (*Spizella arborea*).

Varying numbers of these species (2-10 individuals of each) were kept in mixed flocks in large flight cages during several winters, along with occasional White-crowned Sparrows (*Z. leucophrys*), Rose-breasted Grosbeaks (*Pheucticus ludovicianus*), Lincoln Sparrows (*M. lincolni*). Size of the flight cage varied: the smaller was about 9x4x3 feet, the larger perhaps 6x6x8 feet. Both were equipped with glass fronts to facilitate observation; the observer was ensconced in a blind a few feet away.

For some species it was possible to arrange single- and double-paired encounters in a separate, smaller cage about 1/4 the size of the smaller flight cage. Individuals for the paired encounters were arbitrarily selected from the mixed flocks and placed simultaneously in the test cage.

I found that recently fed birds could usually not be enticed to feed very much in test situations. Hence the birds were deprived of food for an hour or two before observation. Since overt exercise of dominance may not be expected in the wild except in situations where food (in this case) may be limited, this procedure was not unreasonable.

The results in Table 1 may represent the expected interspecific dominance order on "neutral" ground. In the preferred habitat of any species, it would not be surprising if that species' dominance rank rose as was observed for Red-winged Blackbirds (*Agelaius phoeniceus*) (Orians & Willson, 1964). During fall migration in central Illinois all species used in the experiments can be observed in the same habitat (forest edge) and caught in the same mist-net although their habitat preferences may differ. All have somewhat different foraging behavior (Willson, unpub.), and show a greater degree of habitat segregation while breeding.

In Table 1 the figures for the various mixed avian flocks and the paired encounters differ somewhat, doubtless reflecting individual differences among birds used in different encounter situations, but the rank order remains virtually the same. If the tested birds are arranged in a hierarchical manner, the tentative lineup is as follows:

Fox Sparrow Song Sparrow White-throat = Junco Swamp Sparrow Tree Sparrow. Grant (1966) found Song Sparrow dominant to Swamp Sparrow and probably also to White-throats.

This order does not correspond well with the weights of these species as found in Baldwin & Kendeigh (1938), Helms & Drury (1960), Poole (1928), Stegeman (1955), and Stewart (1937). In order of decreasing weight, the rank order is approximately Fox Sparrow (40g) White-throat (26g) Tree Sparrow = Junco = Song Sparrow (20-21g) Swamp Sparrow (16g).

The ranks of average body lengths of these species (Robbins et al., 1966) or the maximum lengths (Peterson, 1947) correspond roughly with the ranks of weights, so that dominance did not seem to be well correlated with either measure of body size. The possibility remains of course that my performers were not typical in size.

The dominance order is, however, correlated with bill size (data in Willson, 1972), species with large bills over those with smaller ones (Spearman rank correlation,  $r_s = 0.985$  for length, 0.900 for depth, 0.929 for width,  $N = 6$ ,  $p .05$ ). A similar correlation is found among the three bill dimensions themselves (Willson, 1972).

The correlation of dominance ranks with ranks of bill size of course does not mean that body size is of no importance. The data suggests, however, that in some cases perhaps the signal value of a large bill may outweigh the effect of body size. In the wild, even in the absence of serious food competition among species, behavioral dominance related, perhaps, to personal space, could have an impact on foraging ecology.

At this point, what is needed are observation of wild flocks of birds, when two or more species can be found in the same place. This could easily be done at a feeding station to which sparrows can be enticed or by watching flocks in their natural habitats. How frequently do members of different species interact with each other, compared to members of the same species? What is the outcome of interspecific encounters: which species is most often dominant? What happens to the "loser" — does he usually move away and feed in a different place? Do dominants pick up more seeds than subordinates (and if so how many more)? Are interspecific encounters more frequent after a great drop in temperature or a snow fall, when enough food may be harder to obtain?

These sorts of observations could easily be made by any bird-watcher willing to spend the time making careful and quantitative observations and notes. I hope that some of the readers of **The Passenger Pigeon** will take an interest in finding the answers to questions such as these, and will make their results available to researchers by publishing them in your journal.

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**TABLE 1. DOMINANCE INTERACTIONS AMONG FIVE SPARROW SPECIES**

Figures in parentheses are the results of single and double paired encounters, unenclosed figures refer to interactions in the mixed avian flocks. \* indicates that opponents are approximately equally matched.

"Protagonist"	"Antagonist"	Number of observations	% win	% draw	% lose
Fox Sparrow	vs. White-throat	30	(97)	( 3)	( 0)
		25	36	64	0
	Junco	30	(90)	( 7)	( 3)
		16	81	19	0
Song Sparrow	Song Sparrow	30	(97)	( 0)	( 3)
	vs. White-throat	30	(77)	( 3)	(20)
		17	6	82	12 *
	Junco	25	80	12	8
		30	(60)	(13)	(20)
		26	8	92	0 *
		38	79	11	10
	11	100	0	0	
Swamp Sparrow	30	(77)	(10)	(13)	
	46	33	50	17	
Tree Sparrow	30	(63)	(23)	(14)	
	53	55	31	11	
White-throat	vs. Junco	34	(24)	(52)	(24) *
		51	17	63	20 *
	34	27	41	32 *	
	Swamp Sparrow	30	(80)	(10)	(10)
Junco	vs. Tree Sparrow	30	(100)	( 0)	( 0)
		30	(80)	(13)	( 7)
	Swamp Sparrow	45	89	9	2
		30	(73)	(20)	( 7)
Tree Sparrow	47	79	17	4	
	47	79	17	4	
Swamp Sparrow	vs. Tree Sparrow	113	49	27	24

# Report of the 1971 Bird Survey of the Fox River Sanctuary, Waukesha, Wis.

In January, 1971, the members of The Benjamin F. Gross Bird Club of Waukesha, Wisconsin, voted to survey the population of birds to be found in, around and over The Fox River Sanctuary. The reason for this decision was to learn whether it would be worthwhile to add plantings, suitable to the area, which would provide more or better cover for birds or would add to their food supply.

The territory included The Fox River Sanctuary, the Godfrey property, both sides of Sunset Drive (Highway A) from the Fox River east to Sentry Drive, both sides of Sentry Drive north and east to the intersection of Prairie and College Avenues, north to the Fox River, and south on both sides of the river to Sunset Drive. The area includes the river, open ponds, marsh, mud flats, flood plain, open fields, evergreen and shrub plantings, oak woods, willows and other indigenous trees and plants.

Fourteen members participated in the survey during the year. The majority of the fifty trips were made by pairs of observers, but occasionally three or four members took part. Trips lasted from two to five or more hours. Usually they combined walking and riding.

On the very first trip, January 31, only one person braved the twenty below zero weather and the snow! He used snowshoes to cover the area, saw one rabbit, but no birds! In contrast, the August 29 trip produced thirty-six (36) species, the high for a single day. During the year ninety-seven (97) species were seen in the area, only two of which may be doubtful identifications.

The following chart shows the number of trips made each month and the total of species seen:

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Number of Trips	1	6	2	7	1	1	4	5	5	5	8	5
Number of Species	0	6	11	27	29	28	43	52	47	37	26	21

The greatest number of individual birds was seen October 22, when there were large flocks of "blackbirds" (Redwings, Grackles, Starlings). The total exceeded 250.

Outstanding experiences were provided by the mud flats at the bends of the river opposite the Sewage Treatment Plant and on the sludge flats at the Treatment Plant. These places were a haven for shorebirds. On one trip, September 5, Killdeer, Greater and Lesser Yellowlegs, Stilt Sandpipers, Pectoral Sandpipers, Sanderlings, Least Sandpipers and a Solitary Sandpiper were seen.

It is presumed a pair of Green Herons nested in the area, for they were seen in May and June, while in August four were seen at one time.

The marshy pond near the Pump House on Highway A was the nesting site for Rails, both Sora and Virginia. Chick, juvenile and adult Virginia Rails were seen on eleven trips, August 1 to October 1. Juvenile and adult Soras were seen eight times, August 1 to September 28.

The Upland Plover was seen July 1.

**Rare** birds (five or less records per year for Wisconsin) were found:

Two Yellow Rails were seen August 8, September 12 and October 1.

It is believed an American Golden Plover was seen September 5 and that a Western Sandpiper was identified September 12.

In summary, the 1971 survey has shown an amazing amount of use of The Fox River Sanctuary area by an unexpected variety (97) of bird species. The Club has voted to continue the survey during 1972. It also plans to explore possibilities for attracting more birds to this very accessible and wonderful area within Waukesha's City Limits.

Report prepared by Mrs. Helen M. Brown  
215 Carroll Street  
Waukesha, Wisconsin  
Member, Benjamin F. Goss Bird Club

### TABLE 1 — SUMMARY

Fifty trips to Fox River Sanctuary, January 31 through December 26, 1971 by 14 members of the Benjamin F. Goss Bird Club of Waukesha, Wis.

Total Species: 97

Species	No.*	Species	No.*
Green Heron	6	Upland Plover	1
Canada Goose	2	Common Snipe	15
Mallard Duck	10	Spotted Sandpiper	10
Blue-winged Teal Duck	2	Solitary Sandpiper	11
Turkey Vulture	1	Greater Yellowlegs	4
Red-tailed Hawk	18	Lesser Yellowlegs	12
Red-shouldered Hawk	1	Pectoral Sandpiper	14
Rough-legged Hawk	1	White-rumped Sandpiper	2
Osprey	1	Baird's Sandpiper	6
Sparrow Hawk	24	Least Sandpiper	4
Ring-necked Pheasant	4	Long-billed Dowitcher	3
Virginia Rail	11	Stilt Sandpiper	3
Sora Rail	8	Semipalmated Sandpiper	2
Yellow Rail**	3	Western Sandpiper	?
Killdeer	31	Sanderling	2
Golden Plover	?	Herring Gull	3

Species	No.*	Species	No.*
Ring-billed Gull .....	2	Warbling Vireo .....	1
Rock Dove .....	7	Orange-crowned Warbler ....	1
Mourning Dove .....	26	Yellow Warbler .....	1
Yellow-billed Cuckoo .....	2	Magnolia Warbler .....	1
Screech Owl .....	1	Myrtle Warbler .....	7
Nighthawk .....	1	Pine Warbler .....	1
Chimney Swift .....	8	Palm Warbler .....	1
Belted Kingfisher .....	22	Yellowthroat .....	9
Flicker .....	19	Canada Warbler .....	1
Red-headed Woodpecker ....	3	English House Sparrow .....	17
Yellow-bellied Sapsucker ....	1	Bobolink .....	1
Hairy Woodpecker .....	1	Eastern Meadowlark .....	21
Downy Woodpecker .....	3	Redwinged Blackbird .....	29
Eastern Kingbird .....	6	Baltimore Oriole .....	3
Crested Flycatcher .....	1	Rusty Blackbird .....	3
Traill's Flycatcher .....	1	Brewer's Blackbird .....	1
Least Flycatcher .....	3	Grackle .....	20
Horned Lark .....	14	Cowbird .....	5
Tree Swallow .....	8	Cardinal .....	1
Barn Swallow .....	12	Indigo Bunting .....	1
Purple Martin .....	9	Dickcissel .....	1
Blue Jay .....	26	Pine Siskin .....	1
Crow .....	37	Goldfinch .....	17
Black-capped Chickadee ....	1	Savannah Sparrow .....	4
White-breasted Nuthatch ....	1	Grasshopper Sparrow .....	1
Long-billed Marsh Wren ....	7	Vesper Sparrow .....	4
Catbird .....	2	Slate-colored Junco .....	10
Robin .....	21	Tree Sparrow .....	4
Wood Thrush .....	1	Chipping Sparrow .....	2
Golden-crowned Kinglet ....	1	Field Sparrow .....	1
Ruby-crowned Kinglet .....	2	Swamp Sparrow .....	13
Cedar Waxwing .....	3	Song Sparrow .....	26
Starling .....	41		

Also observed: one woodchuck, three muskrats

\*The number will indicate on how many of the fifty trips this species was seen.

\*\*Very unusual.

## Request for Cattle Egret Records

I am conducting a study of the distribution of the Cattle Egret, now in its second year, and would like information pertaining to this species for the Great Lakes Region, to include — Wisconsin, Illinois, Indiana, Ohio, Michigan and Ontario, Canada. Data needed is Date, Location (county and township where possible), number, and whether the birds are adults or immatures. Records are needed for the years 1970 and 1971. Record sheets will be supplied upon request.

Records may be sent to: Alan B. Schroeder, 14661 Parkwood Drive, Grand Haven, Michigan 49417.

# Breeding Bird Community of a Monotypic Stand of River Bulrush

(*Scirpus fluviatilis*)

By MICHAEL JAEGER

It has been found by many authors (i.e. Beecher, 1942 and Kendeigh, 1948) that the gross structure of a plant community has a great effect on the species of birds that will nest there. Brooks (1960) found in Wisconsin that two marsh communities of different structure supported different songbird communities. Plant communities of similar structure should support similar avian communities.

Weller and Spatcher (1965) studied the relation of marsh birds to habitat in Iowa. Included in the areas they worked at were stands of a sedge, river bulrush (*Scirpus fluviatilis*). Swink (1969) found in the Chicago region that river bulrush often forms stands to the exclusion of other species. In southern Wisconsin a number of marshes also contain large areas of monotypic stands of river bulrush.

During the summer of 1971 a survey was made to determine the nesting bird community of a monotypic stand of river bulrush in southern Wisconsin.

## STUDY AREA

The area studied is part of the emergent aquatic vegetation of Goose Pond, located in Section 25 of Arlington Township, Columbia County, Wisconsin. See Figure 1.

Goose Pond is a shallow (less than three feet) kettle pond, approximately 70 acres in extent. Open and windswept, the surrounding land was once prairie but now is mostly farmland.

The area studied is about two acres of river bulrush, which forms an almost monotypic stand. There is some growth of smartweeds (*Polygonum* sp.), reed canary grass (*Phalaris arundinacea*), nettles (*Urtica* sp.), bittersweet (*Solanum Dulcamara*) and dodder (*Cuscuta* sp.)

To the east of the bulrush is open water, a cornfield to the north, a solid stand of reed canary grass to the west and a combination of bulrush and smartweeds to the south.

The water level in the area was just below the ground level until about 20 June. A rise in the water level put the bulrush in shallow water (under six inches).

## METHODS

During the months of May, June and the first half of July, bird activity in the bulrush area was observed. Data were kept on the activities of all species in the area. Activities of birds in the neighborhood plant communities were also recorded. These observations were recorded on a map of the area.

A master map for each territorial species was kept, upon which singing males were located. This and the location of interspecific and intra-specific competition showed territories.

## RESULTS

Six species of birds nested in the bulrush area. They are Killdeer (*Charadrius vociferus*), Long-billed Marsh Wren (*Telmatodytes palustris*), Yellowthroat (*Geothlypis trichas*), Red-winged Blackbird (*Agelaius phoeniceus*), Swamp Sparrow (*Melospiza georgiana*) and Song Sparrow (*Melospiza melodia*). The number of territories of each species within the bulrush area are listed in Table I.

The Killdeer was believed to nest because of constant observations of the broken-wing act in the same area. The broken-wing act is a distraction display that occurs when a bird is worried about the well-being of its nest or young. They spent most of their time along the bulrushes' edge to open water.

The other five species held territories within the bulrush area. I found constant song-displays of the males of each species. Song, in the Song Sparrow according to Nice (1943), is one of the most important means of obtaining and keeping territory. Some interspecific and intra-specific chasing was observed.

The five species of songbirds use their territories as nesting grounds. There was probably one nest in each territory of the Yellowthroats, Swamp Sparrows and Song Sparrows. The Long-billed Marsh Wrens and the Red-winged Blackbirds might have had more than one nest per territory for they are polygamous.

It was noted that the Long-billed Marsh Wren did not establish territory in the bulrush until 20 June. This is the first time there was any amount of standing water beneath the bulrush. Until this time the water level was below the ground.

The nesting birds of the bulrush area also nested in other plant communities. There are three other major plant communities at Goose Pond:

1. **Bulrush-smartweed.** These areas are a combination of river bulrush and various smartweeds. It grades into small areas of solid bulrush and small areas of solid smartweeds.

2. **Reed canary.** These areas are dominated by reed canary grass. It forms stands that are almost monotypic. It grows on drier soils than the bulrush and the bulrush-smartweed communities.

3. **Weed.** In the past this area was farmed for hay. Alfalfa (*Medicago* sp.) and timothy (*Phleum pratense*) and lesser amounts of other alien weedy species are present.

Table II lists the plant communities in which each species nested.

**TABLE I**  
NUMBERS OF TERRITORIES IN THE BULRUSH AREA

SPECIES	NUMBER OF TERRITORIES
Killdeer .....	1
Long-billed Marsh Wren .....	1
Yellowthroat .....	2
Red-winged Blackbird .....	3
Swamp Sparrow .....	4
Song Sparrow .....	2

## DISCUSSION

As shown in the latter half of the Results, the nesting birds were not restricted to nesting in an area of one plant species. It appears that the species of plant is not the only factor effecting the distribution of marsh birds.

In Iowa, Weller and Spatcher (1965) studied two lakes and the relation of marsh birds to habitat. Both lakes contained large areas of river bulrush. From that study and from Weller (pers. comm.) Table III was made. It compares this study to their two lakes.

One possible factor in the distribution of marsh birds was noted. The Wisconsin area had little or no standing water below the bulrush until late June. The Iowa stands however were partly dry like the Wisconsin stand and some parts had standing water underneath. The Iowa list for the drier areas corresponds closely with this study. The areas that had standing water contained an entirely different community except for the Red-winged Blackbird. The Red-winged Blackbird is a very adaptable species that nests in a wide range of habitats.

Table III shows that bird communities are variable even within areas of similar floral composition. Factors effecting bird distribution must be more than floristic. A floristic description of an area would be inadequate for describing a habitat for marsh birds or marsh bird communities.

### ACKNOWLEDGEMENTS

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*Help Save*

**HABITAT  
FOR WILDLIFE**

*Mary and Charlie Nelson*

TABLE II

PLANT COMMUNITIES USED FOR NESTING

SPECIES	PLANT COMMUNITIES
Killdeer - - - - -	bulrush, bulrush-smartweed, reed canary
Large-billed Marsh Wren - - - -	bulrush, bulrush-smartweed
Yellowthroat - - - - -	bulrush, bulrush-smartweed, reed canary
Red-winged Blackbird - - - - -	bulrush, bulrush-smartweed, reed canary, weed
Swamp Sparrow - - - - -	bulrush, bulrush-smartweed, reed canary
Song Sparrow - - - - -	bulrush, bulrush-smartweed, reed canary, weed

TABLE III

COMPARISON OF BIRD COMMUNITIES TO WATER LEVEL IN STANDS OF RIVER BULRUSH

SPECIES	DRY TO WET		WET TO FLOODED	
	WISC.	IOWA	WISC.	IOWA
Song Sparrow - - - - -	X			
Yellowthroat - - - - -	X	X		
Swamp Sparrow - - - - -	X	X		
Red-winged Blackbird - - - - -	X	X		X
Long-billed Marsh Wren - - - -			X	X
Pied-billed Grebe ( <i>Podilymbus podiceps</i> ) - - - - -				X
Least Bittern ( <i>Ixobrychus exilis</i> ) - - - - -				X
Virginia Rail ( <i>Rallus limicola</i> ) - - - - -				X
Sora ( <i>Porzana carolina</i> ) - - - - -				X
American Coot ( <i>Fulca americana</i> ) - - - - -				X
Florida Gallinule ( <i>Gallinula chloropus</i> ) - - - - -				X
Yellow-headed Blackbird ( <i>Xanthocephalus xanthocephalus</i> ) - - - - -				X

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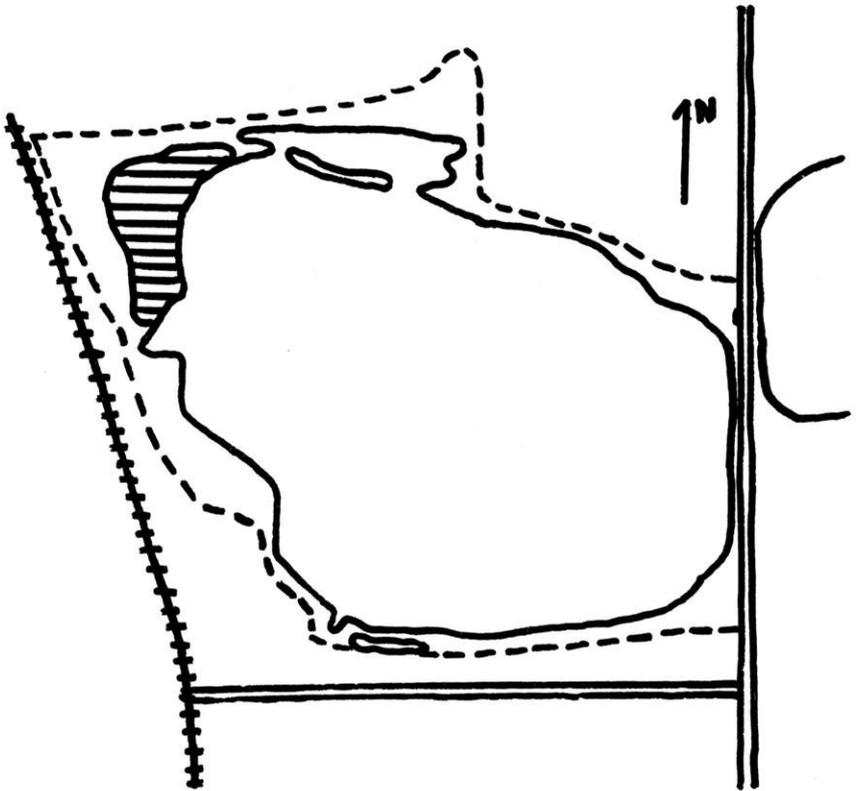
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**FIGURE I**  
LOCATION OF BULRUSH AREA AT GOOSE POND

# A Partial List of the Parasites Of the Ruffed Grouse

By P. V. VANDERSCHAEGEN

This paper reports on a literature search made in an attempt to compile a list of parasites of ruffed grouse, *Bonasa umbellus* (L.). An intensive literature search was conducted while I was at the University of Minnesota, St. Paul. This list is probably not complete, parasite reports from game birds are published in many different types of publications as can be seen by examining the literature cited in this paper. The very nature of the subject is such that a complete list is almost impossible to compile.

In all cases the name of the parasite given is the one used by the author of the paper cited. Most parasites are listed only by major taxonomic groups, this was done because of disagreement among taxonomists on some taxa. The geographic location listed is the one given by the author of the paper cited, many reports were excluded because the locations were not given.

## PROTOZOA

### Sporozoa

Parasite	Geographic Location	Source
<b>Leucocytozoon bonasae</b>	Minnesota	Erickson 1953
	Minnesota	Erickson, Highby and Carlson 1949
	Michigan (Upper Peninsula)	O'Roke 1940
	Ontario	Clarke 1935a and 1935b
<b>Leucocytozoon sp.</b>	Pennsylvania	Bowers and Tanner 1950
	Wisconsin	Dorney and Kabat 1960
<b>Haemoproteus sp.</b>	Pennsylvania	Bowers and Tanner 1950
	Ontario	Fallis 1945
	Wisconsin	Dorney and Kabat 1960
<b>Eimeria angusta</b>	Minnesota, Michigan and Wisconsin	Boughton 1937
	Minnesota	Erickson, et al. 1949
<b>Eimeria bonasae</b>	Labrador and Alaska	Allen 1934
	Massachusetts, Labrador and Alaska	Allen 1934
<b>Eimeria dispersa</b>	Minnesota	Erickson, et al. 1949
	Minnesota, Michigan and Wisconsin	Boughton 1937
<b>Eimeria sp.</b>	Northeast United States	Cram 1931
	New York	Bump, et al. 1947
<b>Plasmodium sp.</b>	Wisconsin	Dorney and Kabat 1960
	Ontario	Fallis 1945
Flagellates		
<b>Trypanosoma sp.</b>	Pennsylvania	Bowers and Tanner 1950
	Wisconsin	Dorney and Kabat 1960
	Minnesota	Erickson, et al. 1949
	Ontario	Clarke 1935a
	Ontario	Fallis 1945
	Michigan	Stafseth and Kotlan 1925
<b>Cyathosoma striatum</b>	New England	Tyzzer 1930
<b>Ptychosoma bonasae</b>	New England	Tyzzer 1930
<b>Trichomonas bonasae</b>	New Hampshire	Connell and Doremus 1937

Parasite	Geographic Location	Source
<b>PLATYHELMINTHES</b>		
Tapeworms		
<i>Davinea tetragonia</i>	Labrador	Cram 1931
<i>Davinia tetraoensis</i>	Michigan	Stafseth and Kotlan 1925
<i>Davinia proglottina</i>	Labrador	Cram 1931
	Minnesota	Erickson, et al. 1949
	Minnesota, Michigan and Wisconsin	Boughton 1937
	New Hampshire	Mueller 1940
<i>Hymenolepis carioca</i>	New Hampshire	Mueller 1940
<i>Hymenolepis microps</i>	New York	Jones 1935
	New York	Bump, et al. 1947
<i>Hymenolepis</i> sp.	Minnesota	Erickson, et al. 1949
<i>Choanotaenia infundibulum</i>	Minnesota	Erickson, et al. 1949
	Minnesota, Michigan and Wisconsin	Boughton 1937
<i>Raillietina tetragona</i>	Minnesota	Erickson, et al. 1949
	Minnesota, Michigan and Wisconsin	Boughton 1937
	New York	Bump, et al. 1947
<i>Raillietina</i> sp.	Wisconsin	Dorney and Kabat 1960
Flukes		
<i>Glaphyrostomum</i> sp.	Labrador	Cram 1931
<i>Brachylaimus fuscatus</i>	Minnesota	Erickson, et al. 1949
<i>Echinoparyphium aconiatum</i>	Minnesota	Erickson, et al. 1949 and Ishii 1942
<i>Lyperosomum monenteron</i>	Minnesota	Erickson, et al. 1949
<i>Agamodistomum</i> sp.	Minnesota, Michigan and Wisconsin	Boughton 1937
<i>Harmostomum pellucidum</i>	Minnesota, Michigan and Wisconsin	Boughton 1937
	New Hampshire	Mueller 1940
<i>Leucochloridium pricei</i>	New Hampshire	Mueller 1940
<i>Prosthogonimus macrorchis</i>	New Hampshire	Mueller 1940
<i>Brachylecithum orfi</i>	Ontario	Kingston and Freeman 1959
<i>Tanaisia</i> sp.	Ontario	Kingston and Freeman 1959
<b>NEMATODA</b>		
<i>Ancyracanthopsis bendelli</i>	British Columbia	Adams and Gibson 1969
<i>Ascaridia bonasae</i>	New Hampshire	Mueller 1940
	New York	Bump, et al. 1947
	Maine, Michigan, New York, Minnesota, Wisconsin, Pennsylvania, Massachusetts and Ontario	Wehr 1940
	Minnesota	Erickson, et al. 1949
<i>Ascaridia lineata</i>	New Hampshire	Connell and Doremus 1937
	Minnesota, Michigan and Wisconsin	Boughton 1937
	New England, New York and Michigan	Cram 1926
<i>Ascaridia</i> sp.	Michigan	Stafseth and Kotlan 1925
<i>Capillaria annulata</i>	New York	Bump, et al. 1947
<i>Capillaria</i> sp.	Wisconsin	Dorney and Kabat 1960

Parasite	Geographic Location	Source
<b>Cheilospirura spinosa</b>	Minnesota Minnesota, Michigan and Wisconsin New Hampshire New York	Erickson, et al. 1949 Boughton 1937 Mueller 1940 Bump, et al. 1947
<b>Dispharynx spiralis</b>	New York	Bump, et al. 1947
<b>Dispharynx sp.</b>	New England	Gross 1925
<b>Hetarakis bonasae</b>	New York	Bump, et al. 1947
<b>Hetarakis gallinae</b>	Minnesota Minnesota, Michigan and Wisconsin	Erickson, et al. 1949 Boughton 1937
<b>Heterakis sp.</b>	Wisconsin	Dorney and Kabat 1960
<b>Microfilaria sp.</b>	Pennsylvania New York Minnesota	Bowers and Tanner 1950 Bump, et al. 1947 Erickson, et al. 1949
<b>Oxyspirura petrowi</b>	Minnesota	Erickson, et al. 1949
<b>Oxyspirura mansoni</b>	Minnesota, Michigan and Wisconsin	Boughton 1937
<b>Oxyspirura sp.</b>	Wisconsin	Dorney and Kabat 1960
<b>Physaloptera sp.</b>	Minnesota, Michigan and Wisconsin	Boughton 1937
<b>Subularia strongylina</b>	Minnesota, Michigan and Wisconsin	Boughton 1937
<b>Syngamus trachae</b>	New York	Goble and Kutz 1945 and Bump, et al. 1947
<b>Syngamus sp.</b>	Wisconsin	Dorney and Kabat 1960
<b>ARTHROPODA</b>		
Mites (Sarcoptiformes)		
<b>Cnemidocoptes mutans</b>	British Columbia	Cowan 1940
Ticks (Ixodidae)		
<b>Haemaphysalis chordeilis</b>	New Hampshire New York	Mueller 1940 Bump, et al. 1947
<b>Haemaphysalis leporis-palustris</b>	Massachusetts, Maine, New Hampshire, Michigan and Rhode Island New York	Peters 1936 Bump, et al. 1947
<b>Haemaphysalis punctata</b>	Michigan	Stafseth and Kotlan 1925
Biting Lice (Mallophaga)		
<b>Goniodes bonasus</b>	New York, Colorado and Montana	Emerson 1951
<b>Goniodes sp.</b>	New Hampshire Massachusetts	Mueller 1940 Peters 1936
<b>Lagopoecus umbellus</b>	New York, Pennsylvania, Ontario and Idaho	Emerson 1951
<b>Lipeurus perplexus</b>	New York and Pennsylvania	Peters 1936
Flies (Siphonaptera)		
<b>Ceratophyllus diffinis</b>	New Hampshire	Mueller 1940
Flies (Diptera)		
<b>Lychia americana</b>	New Hampshire New York	Mueller 1940 and Peters 1936 Bump, et al. 1947

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# FIELD NOTES

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By HAL and NANCY ROBERTS

Summer Season

June 1 - August 15, 1971

This would appear to be an especially fine year for waterfowl, wading birds and shorebirds. Such rarities as the Cattle Egret, Snowy Egret and Little Blue Heron were found; duck nestings appeared to be excellent with more than the usual number of species nesting in the state. Of the shorebirds, Daryl Tessen says it was one of the best migrations in many a year. To quote from his comments, "Unusually large numbers migrated through this part of the state, especially at Kaukauna (primarily) and Kimberly (both along the Fox River) with lesser numbers noted at Green Bay. At Kaukauna-Kimberly numbers varied from 150 to 600 with approximately 1000 (primarily Yellowlegs) being noted on August 7. Numbers at Green Bay from 100 to 400. 50 to 125 shorebirds were noted at Horicon Marsh on August 12. Also approximately 750 to 800 shorebirds were at Goose Pond on August 12 (Pectoral and Yellowlegs primarily). Approximately 650 to 750 shorebirds were on drained Weyauwega Lake on August 15. A total of 21 shorebird species were noted during the period."

Species of terns were well represented this season, including the fourth state record of the Least Tern.

Misfortune struck the nesting of Western Kingbirds in Hudson which we have followed with interest for many years. Also on the dark side, there was no report of the Black-backed Three-toed Woodpecker this year. However, we will presume that it was lack of opportunity to search the bird out rather than misfortune until we have evidence to the contrary.

Places of greatest activity in addition to those mentioned by Daryl Tessen were Horicon Marsh (as always), Grand River Marsh in Green Lake county, Rush Lake in Winnebago county, Goose Pond in Columbia county and Crex Meadows in Burnett county.

The number of observers was down from last year, but coverage of the state was good and the quality of the reports was great.

Following are highlights from the season reports:

**Common Loon:** Found in northern counties throughout the season and late spring migrants lingered in Manitowoc county until June 1 (Woodcock) and in Ozaukee county until June 2 (Bintz).

- Red-necked Grebe:** Twelve to fifteen individuals including four separate families were observed at Rush Lake, Winnebago county on July 23 (Tessen). Also found there on June 18 and 31 (Gustafson). One was in the Port Washington harbor on June 24 (Bintz).
- Western Grebe:** Two were found at Rush Lake on July 23, Winnebago county (Tessen).
- White Pelican:** A total of seven were observed at the Grand River Marsh, Green Lake county on August 12 (Tessen).
- Double-crested Cormorant:** Largest numbers were reported at Grand River Marsh, Green Lake county, where Tessen saw 25+ and Gustafson saw 60+ on August 16. Next in numbers was Crex Meadows, Burnett county where up to 24 were breeding (Stone). Also reported in Taylor county July 1 (Enrard), Oneida county July 20 and Horicon Marsh July 29 (Tessen) and July 31 (Gustafson).
- Great Blue Heron:** A total of 56 nests were located in Taylor county at a large rookery in Chequamegon Waters (Enrard).
- Little Blue Heron:** This species appeared in Horicon Marsh, Dodge county, in mixed blue and white plumage on July 15 (Tessen). White birds were found there on July 30 (Gustafson) and on August 12 (Tessen).
- Common Egret:** Along the Mississippi River, there were birds found in Buffalo county on June 17 (Robbins), LaCrosse county (Rosso) and Vernon county where the brds arrived June 11 and reached a peak in numbers on July 8 (Weber). Also found in Horicon Marsh throughout the season (Tessen, Gustafson) and 20+ were at Grand Marsh, Green Lake county on August 12 (Tessen).
- Snowy Egret:** The first report in many years came from Grand River Marsh, Green Lake county, where three were present on August 12 (Tessen) and one was located on August 16 (Gustafson).
- Cattle Egret:** After an absence of several years, these birds turned up in two locations in the state; at Grand River Marsh, Green Lake county where Gustafson found 25 young and 5 adults on August 16 and a total of more than 60 on August 26. To his knowledge, this is the first record of nesting in the state. The second location was Brown county where birds were observed on June 1 by Brother Columban and Ed Cleary.
- Yellow-crowned Night Heron:** Four adults were present in LaCrosse county on June 13 and 14 (Tessen) where the birds are regularly found. They were also located in Whitnall Park, Milwaukee, after being absent since 1968 (Strehlow).
- Least Bittern:** Out of the usual south and eastern locations were the ten found at Elk River in Price county on August 14 (Vincent).
- Canada Goose:** Unexpected were the three found in Jackson county June 4 (Robbins). In Crex Meadows, Burnett county, there were 81 known broods (Stone).
- Brant:** On July 20 one was brought to the Oshkosh Ranger Station, identified and later released on Rush Lake, Winnebago county (Chipman).
- Gadwall:** Birds were breeding at Crex Meadows, Burnett county (Stone) and were also found in Brown county (Tessen), Horicon Marsh (Gustafson, Tessen) and at Rush Lake, Winnebago county (Tessen).
- Pintail:** Reports of nesting activities came from Outagamie county (Tessen), Winnebago county at Rush Lake (Tessen), Goose Pond in Columbia county (Robbins, Hilsenhoff, Gustafson) and at Horicon Marsh (Tessen, Gustafson).
- Green-winged Teal:** Nesting took place in the following counties: Ashland and Taylor (Enrard), Burnett (Stone), Barron (Goff), Brown (Wierzbicki), Door (Werner and Severson), Outagamie (Tessen), Dodge (Robbins, Gustafson) and Columbia county (Hilsenhoff).
- American Widgeon:** There were many more observations than usual of this species. Reports came from Burnett county (Stone), eight at Price county on August 15 (Vincent), Outagamie county on July 9 (Tessen), at Rush Lake, Winnebago county, on July 23 (Tessen), Columbia county (Hilsenhoff) and Horicon Marsh (Tessen, Gustafson).
- Shoveler:** Observed in the following counties: Ashland (Robbins), Burnett (Stone), Barron (Goff), Outagamie (Tessen), Green Lake (Tessen), Brown (Columban and Cleary), Columbia (Robbins, Hilsenhoff) and Dodge (Tessen, Gustafson).

- Redhead:** One female was present in Brown county on August 14 (Tessen). At least ten were located at Rush Lake, Winnebago county, on July 23 (Tessen), seven at Horicon on July 29 (Tessen) and at Goose Pond, Columbia county (Hilsenhoff).
- Ring-necked Duck:** Ten were observed in Ashland county on June 24 and two in Taylor county on June 14 (Enrard). Also found in Burnett (Stone), Washburn (Knuth), Barron (Goff), July 23 at Rush Lake, Winnebago county (Tessen), one male throughout the season at Genoa Fish Hatchery, LaCrosse county (Rosso), Horicon Marsh on August 12 (Tessen), and nine in Dane county on June 16 (Werner, Severson and Jaeger).
- Canvasback:** One was found at Goose Pond, Columbia county, on June 4 (Robbins) and a male was present in Brown county on August 3 (Tessen).
- Lesser Scaup:** One was found in St. Croix county on July 18 (Robbins), one at Rush Lake, Fond du Lac county (Tessen), one in Horicon Marsh on July 30 and one in Milwaukee on June 23 (Gustafson).
- Common Goldeneye:** Birds were observed in Door county on June 29 (Werner and Severson).
- Ruddy Duck:** Seven were found in St. Croix county on July 18 (Robbins), in Brown county on June 20 (Columban and Cleary) and in July and August with two families of seven young and fifteen adults on July 24 (Tessen), Dodge county, several on August 12 (Tessen), twelve in Columbia county on July 18 (Robbins, Hilsenhoff), and one in Milwaukee county on June 23 (Gustafson).
- Hooded Merganser:** Birds were located in northern counties and were found nesting again in LaCrosse county (Tessen, Rosso). Other southern birds were Oconto county on July 31 (Woodcock), a female at Horicon on August 12 (Tessen) and two in Milwaukee on August 6 (Gustafson).
- Common Merganser:** Found in Vilas county on June 21 (Thomas) and Door county on June 29 (Werner and Severson).
- Red-breasted Merganser:** The only one of the season was found in Milwaukee on June 21 (Gustafson).
- Goshawk:** On June 12 two young birds were banded, last seen on June 29, in Marinette county (Lindberg).
- Sharp-shinned Hawk:** One was found in Washburn county on August 2 (Knuth), Barron county (Goff), a pair in Langlade county (Rudy) and in Oconto county on August 1 (Woodcock).
- Cooper's Hawk:** Found in the following counties: one on June 21 in Barron (Goff), a pair in Langlade (Rudy), one in Oneida on July 20 (Tessen), Vilas (Bradford), two in Oconto on June 12 (Tessen), one in Waupaca on August 15 (Tessen) and in Iowa county (Hanson).
- Swainson's Hawk:** Three were carefully observed in Fond du Lac county south of Rosendale on August 12. All three were dark phase. The day before 95 mph winds had whipped through the area and the winds were 20 to 30 mph out of the west on the day of the observation (Tessen).
- Krider's Red-tailed Hawk:** Two birds present on August 4 in Crex Meadows, Burnett county, had been seen off and on throughout the summer (Stone).
- Broad-winged Hawk:** Common in Langlade county (Rudy). Also in Vilas (Bradford), Price, Forest (Hilsenhoff), Barron (Goff), Oconto (Woodcock), Dane (Hilsenhoff) and Milwaukee counties (Gustafson).
- Bald Eagle:** In addition to a usual number of reports from northern counties, an immature bird was found in Jackson county on July 31 (Robbins) and an adult was reported in Dane county on June 10 (Rusch).
- Pigeon Hawk:** Two observations were reported: in Barron county (Goff) and Iowa county (Hanson).
- Spruce Grouse:** On June 28, a female with several young was seen in Nicolet National Forest (Lound). A male was found in Forest county on July 15 (Richter).
- Sharp-tailed Grouse:** One was found in Sawyer county near Exeland on June 17 (Robbins); three were found on June 28 and two on August 9 in Taylor county (Enrard).

**Sandhill Crane:** Several pair with young were observed in Crex Meadows, Burnett county (Stone); two in Marinette county on June 21 (Lindberg and Robbins); five in the Bear Bluff area of Jackson county on June 4 (Robbins); four in Juneau county on June 4 and one in Adams county on the same date (Robbins); four in Green Lake county August 12, three between Omro and Winneconne on June 5, several in a marsh southwest of Appleton during the summer (Tessen); one in Horicon Marsh on June 18 (Gustafson).

**King Rail:** Northernmost report was of one in Jackson county on June 4 (Robbins). Also found in LaCrosse county (Rosso), Rush Lake in Winnebago county on July 23 (Tessen), one in Horicon Marsh on July 25 (Gustafson), in Whitnall Park, Milwaukee from June 4 to July 30 (Strehlow), and Milwaukee county on July 20 (Gustafson).

**Semipalmated Plover:** Latest spring birds were the two in Douglas county on June 15 (Robbins). Early fall arrivals were five in Outagamie county on July 24 and two on the same date in Brown county (Tessen).

**Piping Plover:** Found at Barker's Island at Superior where it has been observed each year for at least the past six years. One bird was found on June 15 by Sam Robbins who wonders how long the bird will persist with the extensive motorcycling in the area.

**American Golden Plover:** One day earlier than the previous record was the early fall arrival on August 6 at Goose Pond, Columbia county (Gustafson). A peak of 115 individuals was reached at this location on August 17 (Ashman).

**Black-bellied Plover:** A spring migrant lingered in Manitowoc until June 1 (Woodcock); earliest fall arrival was one in Outagamie county on August 3 (Tessen).

**Ruddy Turnstone:** Spring birds were seen until June 1 in Manitowoc county (Woodcock), June 2 in Brown county (Columban and Cleary) and June 4 in Marinette county (Lindberg). Fall birds arrived in Marinette county on August 5 (Lindberg) and in Manitowoc on August 12 (Woodcock).

**Common Snipe:** Many reports throughout the northern area during the summer with observations as far south as Juneau county on June 4 (Robbins), Trempealeau county (Lender) and Dodge county (Gustafson).

**Whimbrel:** One was observed on June 5 at Mud Flats, Atkinson Marsh, Green Bay by Brother Columban and Ed Cleary who report that it had a very melodious call of at least seven parts.

**Solitary Sandpiper:** Earliest fall arrivals were in Trempealeau county on July 6 (Leshner) and 15 in Outagamie county on July 9 (Tessen).

**Greater Yellowlegs:** First fall birds reached Brown county on June 30, three days in advance of the previous record (Wierzbicki). Extremely good numbers were found in fall migration in Outagamie county where Tessen reports a peak of 700 on July 31.

**Lesser Yellowlegs:** Late spring birds were in Ozaukee county until June 3 (Bintz) and early fall birds arrived in Trempealeau county on June 29 (Lender). Largest number reported was 200 at Goose Pond, Columbia county on August 4 (Ashman).

**Knot:** Tessen reports the only birds seen: one in Fond du Lac county on August 12 in full spring plumage and one in Brown county on July 31.

**Pectoral Sandpiper:** Early fall bird was the one in Outagamie county on July 9 (Tessen). 350+ were counted at Goose Pond, Columbia county on August 12 (Tessen).

**Western Sandpiper:** In Marinette county one was seen at close range in company with four Semipalmated and three White-rumped Sandpipers on June 22. Vivid contrast in the size and bill was noted (Lindberg and Robbins). On August 9, Margaret Morse observed one at the Genoa Fish Hatchery, LaCrosse county.

**Marbled Godwit:** One was seen in Brown county the day after a series of severe storms had moved through the area (Tessen). It was seen on the ground and in flight.

**White-rumped Sandpiper:** Last spring departures were three in Marinette county on June 22 (Lindberg and Robbins) and three, same date, in Columbia county (Hilsenhoff). An early fall arrival was the one observed feeding and in flight in Outagamie county on July 19 (Tessen).

- Baird's Sandpiper:** Later by one day than the previous record late spring departure were three birds in Trempealeau county on June 10 (Lender). Earliest fall arrivals were nine logged in Outagamie county on July 17 (Tessen).
- Least Sandpiper:** Early fall arrivals were in Ozaukee county on July 5 (Bintz). 75 were observed in Outagamie county on July 9 (Tessen).
- Dunlin:** Last spring bird was one in Columbia county on June 22 (Hilsenhoff). Two were seen in Columbia county on June 4 (Robbins), one in Marinette county on June 4 (Lindberg), one in Brown county on June 6 (Columban and Cleary) and one in Ozaukee county on June 1 (Bintz).
- Dowitcher:** Earliest fall birds were nine in Outagamie county on July 9 (Tessen).
- Stilt Sandpiper:** Fall migration had begun in Outagamie county with one bird present on July 9 (Tessen).
- Semipalmated Sandpiper:** Latest June birds were the four in Marinette county on June 22 (Lindberg and Robbins). An early fall arrival was the one in Outagamie county on July 17 (Tessen).
- Sanderling:** The latest spring departure and earliest fall arrival were both in Milwaukee; three on June 11 and 13 on June 19 (Gustafson). Birds were also seen June 1 and August 12 in Manitowoc county (Woodcock) and on June 4 in Marinette county (Lindberg).
- Wilson's Phalarope:** Reports during the period from five locations: Brown county (Tessen, Wierzbicki), Columbia county (Tessen, Ashman, Traxler), Horicon Marsh (Gustafson), Oconto county (Robbins) and Outagamie county (Tessen).
- Northern Phalarope:** Up to 11 were seen in Goose Pond, Columbia county, in winter plumage from August 6 to 14 (Tessen, Ashman, Gustafson).
- Ring-billed Gull:** In addition to those expected along the shore of Lake Michigan were nine at the LaCrosse dump on June 18 (Leshner), two in Price county on July 19 (Ennard) and one in Dane county (Hilsenhoff).
- Bonaparte's Gull:** Away from Lake Michigan were those in Ashland on June 14 (Robbins), Outagamie county on August 14 (Tessen), and at Horicon Marsh on July 29 (Tessen).
- Laughing Gull:** One individual was carefully observed in Brown county on August 3 flying amongst Ring-billed Gulls (Tessen).
- Forster's Tern:** Found in Outagamie county on July 17 and 25 on July 31 (Tessen); Brown county had two on July 23 (Robbins), 50 on July 29 (Tessen) and were observed on August 14 (Columban and Cleary); were found throughout the season at Horicon (Gustafson).
- Common Tern:** Out of the usual east and north distribution were those found in LaCrosse on August 15 (Rosso).
- Least Tern:** A fourth record for the state was reported by Rockne Knuth who was also one of the observers of the third record at Fond du Lac in 1969. "On August 17, the campers and staff of the Wisconsin Audubon camp were on a field trip at Crex Meadows in Burnett county. While observing the heronry on Phantom Lake Flowage we spotted a small tern which proved to be a Least Tern. We noted that it was smaller than a Black Tern and that it had a rapid wing beat. It was a white tern with a black cap and a white patch on the forehead. The wings were pale gray blending to nearly black on the leading edges. The tail was shallowly forked and its bill was yellow. The bird flew within 25 feet of us and was observed by nearly 60 people."
- Caspian Tern:** Tessen reports that this is the second year for good numbers below the Kimberly dam on the Fox River.
- Barn Owl:** One was observed in Sauk county on June 22 (Gustafson and Hanbury).
- Screech Owl:** Found in Brown county (Wierzbicki, Columban and Cleary), Waukesha county (Stewart), Milwaukee county (Schmidt), Grant county where it was heard in broad daylight on June 5 (Robbins), and Rock county (Mahlum).
- Short-eared Owl:** The only report is of one on June 16 in Dane county (Werner, Severson and Jaeger).

- Yellow-bellied Sapsucker:** In addition to those found in northern counties were those in Vernon county (Morse, Weber), LaCrosse county (Rosso), Ozaukee county (Bintz) and Iowa county (Jaeger and Werner).
- Black-backed Three-toed Woodpecker:** No reports.
- Western Kingbird:** The birds which have been observed annually since 1960 met with disaster this summer. On July 10 boys killed three or more. Two immatures were brought to Pete Tweet. None remained after July 11. On the brighter side, a pair was discovered in the village of Saronia, Washburn county, on July 16. Rockne Knuth reports, "They were observed easily, perched on the telephone wires. All field marks noted including: gray back, yellow belly, black tail with white outer tail feathers. We suspected that there may be a nest. Tex (Sordahl) soon spotted the nest 30 to 40 feet in an Elm tree and at least two young were seen. A week later the nest was destroyed by a storm. It is not known whether or not the young had fledged but the adults were not seen after that."
- Yellow-bellied Flycatcher:** Robbins found birds in Douglas county on June 15, Ashland county on June 14 and Sawyer county on June 14. Hilsenhoff found birds in Price county, Forest county and Taylor county. Recorded on June 2 only in Outagamie county (Tessen). Found in Brown county on August 13 (Wierzbicki), two in Manitowoc on June 1 (Woodcock), in Ozaukee county on June 2 (Bintz) and Rock county June 2 (Traxler).
- Acadian Flycatcher:** Farther north than usual was the report in Brown county on July 14 (Columban and Cleary).
- Olive-sided Flycatcher:** Robbins found one in Ashland county on June 14 and one in Douglas county on June 15 and writes that he was surprised not to find more. Three were spotted in Washburn county on August 10 (Knuth), in Langlade county (Rudy), in Marinette county on June 9 (Lindberg) and in Sheboygan county on June 3 (Kuhn).
- Boreal Chickadee:** Found in Florence county on June 14 (Hilsenhoff), adult and one immature in Forest county on July 14 (Richter), one and possibly two northwest of Sugar Camp on CTH D, Oneida county, on July 20 (Tessen) and Langlade county (Rudy).
- Tufted Titmouse:** Unexpected was the record of observations in Door county on June 29, 30 and July 1 (Werner and Severson).
- Red-breasted Nuthatch:** Unusually far south was one in Ozaukee county on July 7 (Bintz).
- Brown Creeper:** Also unusually far south was the one in Ozaukee county on July 7 (Bintz).
- Winter Wren:** The Bintz' again recorded an unusual northern bird, on July 31, Ozaukee county.
- Carolina Wren:** Seen and heard singing at two locations in Madison the entire month of August (Lound).
- Mockingbird:** After no reports for the past two seasons, a report of one at the state line in LaCrosse on June 14 (Tessen).
- Swainson's Thrush:** One in Vilas county on July 5 (Bradford) is the only one reported.
- Gray-checked Thrush:** One in Outagamie county on August 11 (Tessen).
- Bluebird:** Robbins found birds in 19 counties, not in any numbers. In Langlade county, Rudy says they were the most numerous in years.
- Blue-gray Gnatcatcher:** Most northerly was the observation in Marinette county on August 3 (Lindberg).
- Ruby-crowned Kinglet:** One located in Ashland county on June 14 and at two locations in Douglas county (Robbins), Price and Forest counties (Hilsenhoff), one in Antigo July 11 (Rudy) and one in Oconto county on June 16 (Woodcock).
- Loggerhead Shrike:** Reports came from the following: Marinette county on June 22 (Lindberg and Robbins), one in Door county June 24 (Robbins) and August 5 (Tessen), St. Croix county on July 18 (Robbins), Outagamie county where one was seen carrying a mouse on July 17 (Tessen), all of June in Jackson county with two nests located (Harmer), LaCrosse county (Rosso) and two in Sauk county on June 29 (Gustafson).

- White-eyed Vireo:** On June 4, one was seen and heard singing in Milwaukee (Gustafson) and on June 29 one was seen and heard singing in Sauk county (Hilsenhoff). These are the first summer reports since 1967.
- Bell's Vireo:** Four were found at the usual spot in Trempealeau Refuge on June 18, and also three more singing in the northern part of the county in the Chimney Rock area (Robbins). On June 20 one was found singing in a new location along CTH Y north of Mazomanie (Gustafson). One was discovered July 2 at the State Headquarters at Horicon Marsh (Gustafson).
- Prothonotary Warbler:** Found in Buffalo county on June 17 (Robbins), LaCrosse county (Tessen, Rosso), and one in Sauk county on June 22 (Gustafson).
- Blue-winged Warbler:** Found in usual southwestern areas and also in Milwaukee on July 20 (Gustafson).
- Tennessee Warbler:** On June 25 one was singing in Dane county (Hickey, fide Emlen); one which appeared to be immature was discovered at Clear Lake, Oneida county on July 20 (Tesses); one in Trempealeau county on August 11 (Lender).
- Nashville Warbler:** Most southerly was a male seen in the Hoeth Forest, LaCrosse county, on June 20 (Rosso).
- Parula Warbler:** Found in the northernmost tier of counties (Robbins) and in Door county (Robbins, Werner and Severson).
- Cape May Warbler:** Robbins records 9 singing males and one female near Solon Springs on June 15 in the same spot as in 1970. Also one near Gordon on June 16, and in Ashland county, one south of Clam Lake on June 14, where one was found in 1970.
- Cerulean Warbler:** North of the usual range are the one found southeast of Cadott, Chippewa county, on July 23 (Robbins), and the one found at Audubon Camp, Sarena, during June and July (Knuth).
- Bay-breasted Warbler:** Early fall migrants arrived in Oconto county on August 3 (Woodcock) and in Ozaukee county on August 14 (Bintz).
- Palm Warbler:** Only report is from Langlade county on August 10 (Rudy).
- Northern Waterthrush:** Found in northernmost counties. One in Chippewa county singing on July 22 is believed to be a summer resident as it was also found there on May 30. Could possibly be a very early fall migrant (Robbins). Ones found in Ozaukee county on August 15 (Bintz) and in Milwaukee on July 31 (Strehlow) are most likely fall migrants. A straggler was found in Ozaukee county on June 25 (Gustafson).
- Louisiana Waterthrush:** The only report is from Sauk county (Hilsenhoff).
- Kentucky Warbler:** One was discovered in Dane county on June 22 (Gustafson) and one in Wyalusing Park, Grant county, on June 27 (Leshner).
- Connecticut Warbler:** Four were found singing in Douglas county on June 16, in Bayfield county on June 15 (Robbins), Florence county (Hilsenhoff) and one singing in Juneau county on June 4 (Robbins).
- Mourning Warbler:** Most southerly birds were at University Arboretum, Dane county, on June 9 (Emlen), and in Ozaukee county on June 1 (Bintz).
- Yellow-breasted Chat:** The only observation was of one in Grant county, near North Andover on June 5 (Robbins).
- Wilson's Warbler:** Three late spring migrants were found; one in Brown county on June 3 (Wierzbicki), one in Milwaukee on June 4 (Gustafson) and one in Ozaukee county on June 15 (Bintz).
- Yellow-headed Blackbird:** Found to be increasing in Brown county (Columban and Cleary) and found in Ozaukee county in a new location (Bintz).
- Orchard Oriole:** One was found on the Trempealeau Refuge on June 18 where it has been seen in previous years (Robbins). Also found in Door county on June 29, 30 and July 1 (Werner and Severson), in LaCrosse county (Rosso) on June 28 and July 9 (Leshner), and young were seen in Waukesha county on July 26 (Stewart).
- Black-headed Grosbeak:** A mature male appeared at a feeder in Dane county on August 8. All markings were carefully noted (Lound).

- Evening Grosbeak:** Found in many northern counties. Adults and young were at feeders in Price county in August (Vincent) and in Langlade county (Rudy).
- Pine Siskin:** The summer invasion of 1969 and the large numbers of 1970 appear to be subsiding with more normal reports coming from Douglas county where one was found on June 15 (Robbins), three at a feeder in Price county on July 16 (Vincent), one in June in Langlade county (Rudy) and one on July 20 in Menominee county (Tessen).
- Red Crossbill:** One in Langlade county on July 25 (Rudy) and one along CTH A west of Three Lakes, Oneida county, on July 20 (Tessen).
- Grasshopper Sparrow:** Found north to Sawyer and Rusk counties, on June 17; in Marinette county, on June 22; in Oconto county on June 23; in Door county on June 24 (Robbins).
- Le Conte's Sparrow:** One was found singing in Clark county south of Thorp on June 9; one singing in Eau Claire county on June 11; one near Cornell, Chippewa county, where several were found in 1970, on July 22; one near Brule, Douglas county, on June 15; four in Sawyer and Rusk counties on June 17 where they were found in 1969 and 1970, (Robbins). Found in three areas in Marinette county near Peshtigo on June 22 (Lindberg and Robbins). One was singing in a marshy area on the east side of Rush Lake, Winnebago county, on July 23 (Tessen).
- Sharp-tailed Sparrow:** One was located on June 24 in a wet meadow adjacent to Horicon Refuge. The song was heard clearly at close range (Gustafson).
- Lark Sparrow:** Found in LaCrosse county (Rosso), in Jackson county near Black River Falls on June 19 (Robbins) and near North Bend on June 20 (Leshner), Sauk county on June 22 and two in Milwaukee on June 29 (Gustafson).
- Slate-colored Junco:** Noted only in Bayfield county on June 15 and in Douglas county on June 16 (Robbins).
- Clay-colored Sparrow:** Most southerly reports were of one in Vernon county on June 15 (Weber) and one in Sauk county on June 29 (Gustafson).
- White-throated Sparrow:** Robbins found his southernmost birds in Jackson county south of Hatfield on June 19, at a spot where they were also found in 1970. Possible early fall migrants were the ones found in Ozaukee county on July 24 (Gustafson).
- Lincoln's Sparrow:** Two were found near Pelican Lake, Oneida county, on June 21 where they have been noted in other years (Weiss and Robbins), one near Gordon, Douglas county, on June 16 (Robbins), one pair all through June and July in Langlade county (Rudy), one singing and one carrying food west of Three Lakes, Oneida county, on July 20 (Tessen), and one in Ozaukee county on July 15 (Bintz).

#### 1971 OBSERVERS

Marjorie Albrecht, Philip Ashman, Mrs. R. H. Bickford, Tom, Carol and Dave Bintz, Alfred Bradford, Mr. and Mrs. John Brakefield, Irma Chipman, Edwin D. Cleary, Brother Columban, J. T. Emlen, Jim Ennard, Alta Goff, Delbert E. Greenman, Dennis Gustafson, Robert Hanson, Maybelle Hardy, Dorothy Harmer, William Hilsenhoff, Michael Jaeger, Rockne Knuth, Eleanor G. Kuhn, Ruth Lender, F. Z. Leshner, Roy Lound, Harold Lindberg, Mrs. Joseph Mahlum, Margaret Morse, Mrs. Edward Natzke, C. H. Richter, Wayne Rohde, Jerome R. Rosso, Carol Rudy, Alan J. Rusch, Sam Robbins, Norma Schmidt, Severson, Nancy Stewart, N. R. Stone, Elmer W. Strehlow, Daryl Tessen, Mrs. Linda Thomas, Mrs. Floyd Traxler, Dr. P. A. Tweet, Alice Vincent, Viratine E. Weber, Evelyn Werner, Fr. Melvin Wierzbicki, John Woodcock.



# Letters To The Editor . . .

The following two letters were received by Sam Robbins commenting on a recent article in the *Passenger Pigeon*.

Dear Sam:

The fall '71 issue of the *Pigeon* came today, and I was pleased to see your five-year summary of the Breeding Bird Survey in Wisconsin. This is one of the best state summaries that has been published. I could not detect any goofs in your explanation of methods or in your conclusions.

You did quite well in eyeballing the significant changes (paragraph 1, page 122). You concluded that the Indigo Bunting and Field Sparrow are experiencing a modest but steady decline. I ran a linear regression and found that these were the **only** two species in your table that had a statistically "highly significant" decline at the 99 percent level of probability. There also was a "significant" (at the 95 percent level) decrease in the Vesper Sparrow. The only bird in your table to show a significant increase during the 1966-1970 period was the Red-winged Blackbird (95 percent probability). The regression coefficient for the Starling was only .749, and it had to be .878 or higher to be statistically significant. Actually the Robin and the Barn Swallow came closer than the Starling to showing an upward trend. But this would have been very difficult to detect unless you went through all the calculations. I checked out the whole table in less than half an hour using statistical electronic calculator. I'd be glad to check out significance of future tables for you prior to publication. — Chandler S. Robbins, Migratory Bird Populations Center, Laurel, Maryland.

\* \* \* \* \*

Dear Sam:

Your recent *Passenger Pigeon* article on Wisconsin's Breeding Bird Transect says that you believe the Clay-colored Sparrow disappeared as a breeding bird in southeast Wisconsin about 1950. I'm sure, of course, you don't imply complete "disappearance" as a breeder. Nonetheless the following Waukesha County records may be of interest.

Since 1968 I've found the Clay-colored regularly present in one area of Ottawa Township: 1968 (May 11), 1969 (May 11, 26, 30, July 20), 1970 (May 17), and 1971 (May 16). I've simply not made more checks to provide more mid-summer records, but I'm quite confident that one to several males summer there, and breeding seems likely.

In 1960 a singing male was found June 4-9 and August 1 in section 36, Summit Township, though not on intervening dates in this regularly-observed area. On April 29-May 13, 1961, at least two males occurred in the same area, but it has not been seen in this section since then.

Observations published in *The Passenger Pigeon* do suggest that county summer records fell off after 1955. Still, I'd say your general conclusion on breeding disappearance is quite accurate; but the above occurrences in a specialized habitat indicate exceptions — perhaps regular exceptions — to that conclusion. — John Bielefeldt, Oconomowoc.

# Letters to the Editor

Rt. 2, Box 203  
Withee, Wis. 54498  
March 13, 1972

Dear Dr. Kemper

I recently received the winter 1971 issue of the **Passenger Pigeon** and was disappointed to see that the corrections made on the proofs that I returned to you on September 22, 1971 were not made on the article when published.

There are two errors which might contribute some mis-understanding and should be listed as "errata" in a following issue of the **Passenger Pigeon**. In Table 1, page 164, there were 50 goldeneyes not 500 observed on March 31, 1967. The second error is on line 4, paragraph 2, page 166. The line should read "... 80 birds or 42 per linear mile ..." not "80 birds per linear mile".

The other errors are minor and will not contribute to the mis-understanding of the paper. Thank you.

Very truly yours,  
James O. Evrard

ED. NOTE: I am very sorry Jim. Mistakes do get by us—no matter how hard we try to prevent them.

Dr. Charles Kemper  
733 Maple Street  
Chippewa Falls, Wis. 54729

Box 358, Oshkosh, Wis. 54901

Dear Dr. Kemper:

I am writing to express my displeasure at seeing George Becker's article "The Pugnose Shiner — A Dodo?" in the most recent issue of the **Passenger Pigeon**. I am not objecting because an article on fish is contained in a publication devoted to bird study, but to some of the statements made by Dr. Becker concerning fish eradication projects.

While Dr. Becker does not specifically mention it, his comments are obviously directed to the Wisconsin Department of Natural Resources. Many of us who work for this agency consider Dr. Becker's remarks as personal insults to us and to our profession. We are not, as Dr. Becker would imply, mad fools bent on destruction of the environment. We are, however, dedicated individuals who are vitally concerned with the future well being of the natural environs of our state and country and we are doing everything in our power to halt the many abusive and destructive forces working against the environment. Many of us, like myself, are members of the Wisconsin Society for Ornithology and similar organizations dedicated to the preservation and protection of our natural environment. Undoubtedly, Dr. Becker can say the same things about himself, but because he is a "past president of WSO, an active birder, and a friend of many readers", his **opinions** (not backed by facts, by the way) are boldly declared on the pages of the **Passenger Pigeon**. This type of reporting is not, in my opinion, appropriate for a scientific publication such as the **Passenger Pigeon**.

The issue of chemical fish eradication projects is as complex as it is emotional and I personally do not pretend to know all the answers. During the past year Dr. Becker raised some interesting questions about chemical treatment projects. Now a point has been reached where Dr. Becker has let emotion overshadow his scientific logic. Rational and reasonable discussions have come to a halt. Unfortunately, this entire matter has created a rift between two groups of environmentalists that will not easily rectify itself. This occurring at a time when we should all be working for the common good — not against one another.

There is one inconsistency in Dr. Becker's article that I would like to comment on. He states that chemical fish eradication projects may have eliminated isolated populations of the pugnose shiner. What happened to the 46 odd specimens collected by Dr. Becker? Were they identified, studied and returned to the water or were they collected, preserved, and destined to become yet another jar of fish on a dusty museum shelf? I strongly suspect the latter — an unfortunate fate for a fish doomed, as Dr. Becker implied — to extinction.

I have attached a copy of an article recently appearing in the Sport Fishing Institute Bulletin concerning chemical fish eradication projects in Wisconsin. You may find this interesting.

Dr. Kemper, I appreciate the opportunity to comment on Dr. Becker's recent article and hope I have put some of his comments in proper perspective. Should your birding activities bring you over to the Oshkosh area, give me a call. Last year we had some excellent shorebird densities in mid-spring with several uncommon species turning up.

Ronald Fassbender, Biologist

Dr. Charles A. Kemper  
733 Maple Street  
Chippewa Falls, Wis. 53729  
Dear Charles:

April 2, 1972

Both Silvy and I enjoyed your editor's remarks as to why a fish article is appearing in a bird periodical. Very apropos, thought Silvy. I concur.

Unfortunately the changes which I had indicated on the galley proofs were not honored. I am enclosing a copy of the manuscript so that corrections could be made. It is important that the records are correct, otherwise people might suspect that the entire paper was a dodo or a spoof or something similar. After all, people will be wondering about Pawaukee Lake in Washara County, neither of which exist in Wisconsin. I'm sure that Marlin Johnson has not collected White Clay Lake in Shawano County and I am wondering what he will think when he sees this?

Whatever you can do to save the day would be most appreciated.

Cordially, George Becker

- 2 Specimens. Pawaukee Lake (Waukesha Co.), Aug. 3, 1960. Coll. by G. Becker.
- 2 specimens. Lake Poygan (Winnebago Co.), Aug. 8, 1961. (A second collection at the same locale consisted of 41 specimens, July, 1963). Coll. by G. Becker.
- 1 specimen. White Clay Lake (Shawano Co.), Aug. 2, 1967. Coll. by Wis. Dept. of Nat. Resources.
- 1 specimen. Bassett Cr. (Kenosha Co.), May 25, 1968. Coll. by Marlin Johnson.

# Letters to the Editor

17 March 1972

Dear Charles:

Please consider the enclosed for publication in the **Pigeon**. I have sent a copy to Chuck Weise.

I trust that all is well in good old Wisconsin. I miss it (particularly Cedar Grove) with some frequency. Wish I had the time to get back more frequently.

Pugnose Shiners? I always thought there was something fishy about your magazine.

Best regards,  
Helmut C. Mueller

## IRREGULAR MIGRATIONS OF BLACK-CAPPED CHICKADEES AT CEDAR GROVE

By HELMUT C. MUELLER and DANIEL D. BERGER

Weise (**Passenger Pigeon** 33: 173-188) questions our conclusions that we have captured many transient Black-capped Chickadees (*Parus atricapillus*) at Cedar Grove (Mueller and Berger, **Passenger Pigeon** 29: 107-115). A few words of further explanation appear to be in order. Our capture of Chickadees for the autumns of 1958-1964 varied as follows:

1958 — 25  
1959 — 334 (102 on 13 October)  
1960 — 21  
1961 — 348 (216 on 23 through 25 October)  
1962 — 54  
1963 — 116 (a slight peak, 18-19 October)  
1964 — 30

It can be seen that Chickadees were unusually abundant in odd-numbered years. In 1959 and 1961 we actually saw the Chickadees migrating, moving southward in small flocks, often flying for several hundred yards without alighting.

Two birds banded on 14 October 1959 were subsequently recovered: one in February 1960 at Lake Geneva, Wisconsin, and one on 7 March 1960 at Zion, Illinois.

Also one banded October 6, 1963 was recovered at Oconomowoc, Wis., November 27, 1963. One banded October 10, 1963 was recovered at Milwaukee, Wis., December 10, 1963. Another banded October 28, 1963 was recovered at Elm Grove, Wis., on November 11, 1963.

We believe that this clearly establishes that the Black-capped Chickadee is an irregular migrant at Cedar Grove.

A recent preliminary review of the irregular migrations of the Black-capped Chickadee in eastern North America was published by the late Aaron Bagg (*Audubon Field Notes* 23: 8-12).

The netting of birds was performed while the senior author was affiliated with the Department of Zoology at the University of Wisconsin. A portion of the work was supported by National Science Foundation Grant GB-175. Professor J. T. Emlen gave frequent counsel and encouragement. A number of persons aided in the collection of data. We are particularly indebted to N. S. Mueller, J. J. Oar, F. Renn, D. E. Seal, L. E. Bishop, C. R. Sindelar and the Hamerstoms. The Cedar Grove Ornithological Station is sponsored by the University of Wisconsin and the Department of Natural Resources, Division of Conservation, of the State of Wisconsin.

# To All Great Blue Heron Watchers

I would appreciate your help in establishing the arrival dates of the great blue heron in the various areas of Minnesota and vicinity.

Would you please report the date and other information asked for below for your first heron observation.

- - - - - CUT ALONG THIS LINE - - - - -

## GREAT BLUE HERON WATCHERS REPORT — 197.....

Date herons first seen ..... No. ....

Location: Direction .....

and Miles from nearest town .....

on what lake or river .....

is nesting colony near? .....

Observed .....

Address .....

..... (Zip) .....

- - - - - CUT ALONG THIS LINE - - - - -

If you are interested in further reporting, I will ask for nesting season and feeding ground information later.

All heron watchers will continue to receive published reports.

The recent Nature Conservancy brochure coming with the next **Loon** on the Cold Spring Heron Colony and the recent article in **The Loon** 43(3): 7577 are illustrations of intensive study in one area. With your help we could extend the migration picture state-wide.

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ORNITHOLOGY IN LABORATORY AND FIELD. By Olin Sewall  
Pettingill Jr. Burgess Publishing Co., Minneapolis, Minnesota, 1970.  
4th Edition. xvii+524pp.

This is the latest revision of a book designed "as an aid to ornithological study at the college or university level". If a student plans to take courses related to birds or is planning to concentrate his study and later work in this area, this book would be a useful reference source. Unfortunately, the majority of students have the opportunity of taking only one ornithology course during their college careers. Any further study in this area is usually dependent on their personal interest, hobbies, etc. Taking this into consideration, the book has several shortcomings.

The early chapters contain too much extraneous detail for the beginning ornithologist. For example, the chapters on anatomy and physiology contain superfluous technical terminology and structural details which are not essential for an introductory understanding of these areas. In my opinion, dissection is not necessary for the beginning student. The same criticism may be applied to the chapters on external structures in which bill types are covered in great detail and where pictures illustrate several of them. If this morphological feature is important, pictures of all the bill types should be presented and not just a few.

The chapter on laboratory identification was too long and indicated that students would be required to spend long hours studying bird skins. Students should be exposed to some work in the laboratories, but the author must realize that one can get too much of a good thing. I feel that the field is the place beginning students should observe and learn to identify birds.

The keys are helpful, as they point out the characteristics and the orders and families and should be included.

Other weak areas are the chapters dealing with the extremely important facets of bird life such as songs, territory and behavior. These chapters tend to be more explanative or descriptive and fail to discuss the importance of how these various aspects of bird life are regulated. His chapter on migration is good, but lacks sufficient information on how birds orient themselves and navigate. The author's handling of distribution, mating, eggs, young and parental care are well done. The chapter on longevity, numbers and populations is too brief. This is one of the most interesting and important areas for the beginner and should enable him to obtain an understanding of and an appreciation for the interactions between birds and their environment.

The appendix is a useful section, especially that portion dealing with field methods. An important area that has been slighted is the use of plumage to sex and age birds.

One well-planned section of the book is that portion dealing with field projects which can be carried out in conjunction with the text material. In summary, this book should be useful as a reference source, but is not suitable as a text for a beginning class in Ornithology. — Steve Goddard

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