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VOLUME 37, NO. 1



A MAGAZINE OF WISCONSIN BIRD STUDY

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The 1974 Wisconsin Christmas Bird Count

By WILLIAM HILSENHOFF

The 1974 Wisconsin Christmas Bird Counts were phenomenal, producing 141 species statewide (best previous count 135 in 1972), and recording many species in record or near record numbers (Tables 1 and 2). Several factors undoubtedly contributed to the success of the counts, the most important of which was probably the mild weather preceding the count period and continuing throughout the period. No counts were undertaken in sub-zero weather; most were made in mild weather and usually under relatively windless conditions (Table 3). The early start of the count period (December 14) was probably also a factor, because some species are still migrating in December, especially when the weather has been mild. Until a few years ago, the count period never began before December 20. Better organized counts, greater familiarity with the count areas, and more experienced observers were probably also important factors.

Locations of the 69 counts are illustrated in Figure 1. Four new counts in Manitowoc County and new counts at Grantsburg, Arcadia, Cedar Lake, and Stockbridge were welcomed additions. Exact locations of each count are reported in Table 4. Unfortunately, there again was some unnecessary overlapping of counts and the centers of several smaller counts were carelessly shifted. Reporting of "party hours" also seemed to trouble some compilers who apparently did not understand how to calculate this important statistic. Documentation of rarities, however, was generally excellent. Every few sightings were rejected, and only a few inquiries had to be made to obtain additional documentation. Several observers used the excellent documentation form suggested by David Bohlen in the December 1873 issue of the *Passenger Pigeon*, and anyone who has not read his article on documentation should certainly do so.

Highlights of the count were the rarities (see "By the Wayside"). King Rails and a Black-legged Kittiwake at Madison, a Great Gray Owl at Brule, a Mountain Bluebird at Ephraim, and a Pine Warbler at Durand were species new to Wisconsin Christmas Counts. Seen for only the second time were a Black Scoter at Racine, a Turkey Vulture at Sauk City, a Sora at Green Bay, an Iceland Gull at Kenosha, and a Northern Oriole at Madison. A Broad-winged Hawk at Madison and 3 Mute Swans at Ashland and Bayfield (undoubtedly the same 3 birds) were the third records for those species. The Curve-billed Thrasher at Buffalo remained for her fourth consecutive Christmas Count. Other rarities include Chipping Sparrows at Milwaukee (5th year), Virginia Rails at Madison and Oconomowoc (6th year but first time on 2 counts), Carolina Wrens at Madison and Oconomowoc (7th year), a Varied Thrush at Peshtigo (8th year) and a Harris' Sparrow at Woodland Dunes NE (8th year). A Palm Warbler at Plymouth and a Green Heron at Oconomowoc were present during the count period but not on the day of the count. More than one-fourth of the species seen on the 1974 count were present in record numbers, on a record percentage of counts, or both.

The large amount of open water contributed to counts of waterfowl, with diving ducks and mergansers being especially abundant. Mallards numbered 7000 more than the 1965 high, and the 11 Horned Grebes and 565 Gadwalls at Madison, and 112 Hooded Mergansers and 90 Ring-necked Ducks at Buffalo were exceptional records.

It was also a great year for hawks and owls. Numbers of Rough-legged Hawks and American Kestrels were more than twice as great as in any previous year. The exceptional numbers of Rough-legged Hawks in northern Wisconsin indicated that they had not completed their southward migration. For the third consecutive year there was a good flight of Goshawks, but not as good as in 1972. More persons spending pre-dawn hours listening for owls, generally light winds, and an expanded use of tape records to attract owls probably all contributed to record counts of Great Horned, Barred, and Screech Owls. There were good flights of Short-eared and Snowy Owls, but Long-eared Owls were way down in numbers for the second consecutive year.

Winter finches are always of interest, but 1974 was not a good year for many species. Red and White-winged Crossbills were almost absent, and flights of Common Redpolls, Pine Siskins, and Pine Grosbeaks were generally poor. There was, however, an excellent flight of Evening Grosbeaks into northern and central Wisconsin, and American Goldfinches and Purple Finches were numerous statewide.

There were many excellent counts this year, but the 91 species seen at Madison is an incredible record that may never again be equalled. Other counts reporting 50 or more species were Appleton 73, Milwaukee 68, Hudson 66, Newburg 63, Waukesha 60, Lake Geneva and Kenosha 58, Racine 57, Poynette, La Crosse, and Sauk City 55, and Oconomowoc 50. With continued improvement in the organization of counts, perhaps next year we can have even more counts reporting 50 or more species.

Help Save

HABITAT FOR WILDLIFE

Mary and Charlie Nelson

TABLE 1. BIRDS SEEN ON 20 OR MORE COUNTS

	Northwest								Northeast							
	Bayfield	Ashland	Brule	Solon Springs	Pfiffeld	Oxbow	Grantsburg	Cedar Lake	Sayner	Rhinelander	Summit Lake	Merrill	Lakeview	Antigo	Peshigo	Shawano
Count Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mallard	1	6	12	3	..	..	..	18	..	..	..	470	..	..	1	..
Black Duck	..	25	1	..	..	..	..	..	..	..	..	3	..	..	2	..
Common Goldeneye	44	30	1	..	1	..	..	..	..	10	..	3	..	..	51	..
Common Merganser	..	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Red-tailed Hawk	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Rough-legged Hawk	..	20	2	2	17	7	38	1	..	..	6	3	1	2	2	5
Marsh Hawk	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
American Kestrel	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Ruffed Grouse	*	7	2	2	1	3	2	3	..	3	..	..	..	3	..	1
Pheasant	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Herring Gull	1122	4	..	..	..	..	..	..	..	..	..	..	..	..	95	..
Rock Dove	8	56	6	22	15	..	78	94	..	15	..	3	..	..	..	24
Mourning Dove	..	..	..	..	..	..	3	..	..	..	..	5	..	2	52	17
Great Horned Owl	..	..	2	1	1	1	..	1	1	..	..	..	1	..	..	2
Belted Kingfisher	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
Common Flicker	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pileated Woodpecker	..	1	3	..	1	*	3	1	..	2	1	..	..	..	1	1
Red-bellied Woodpecker	..	*	..	..	..	..	6	..	..	..	..	..	..	..	1	1
Red-headed Woodpecker	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..
Hairy Woodpecker	9	4	5	8	22	6	34	1	11	19	7	..	3	10	7	13
Downy Woodpecker	21	9	3	6	30	9	34	1	7	14	13	1	11	15	7	12
Horned Lark	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Blue Jay	97	71	49	52	95	30	149	39	18	52	41	13	4	48	53	49
Common Crow	6	30	7	2	29	5	281	54	..	7	4	19	46	..	63	66
Black-cap. Chickadee	88	73	29	53	229	29	101	143	56	175	99	11	24	73	52	59
White-br. Nuthatch	12	4	6	13	29	5	58	20	9	34	11	4	1	15	11	15
Red-breasted Nuthatch	10	5	4	16	68	15	..	25	5	27	12	..	6	14	..	3
Brown Creeper	4	1	4	1	1	..	..	4	*	4	..	1	..	..	1	4
American Robin	8	..	..	..	*	1	..	..	..	1	..	..	..	*	*	..
Golden-crowned Kinglet	..	..	2	..	1	..	..	..	..	..	..	..	2	..	..	4
Cedar Waxwing	42	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Northern Shrike	3	5	1	..	1	1	..	1	..	1	5	..	..	2	2	2
Starling	141	287	27	..	16	..	89	58	..	19	90	123	7	108	71	54
House Sparrow	205	271	23	97	182	..	374	137	7	62	56	441	14	214	51	72
meadowlark spp.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Red-winged Blackbird	..	2	..	..	..	..	..	..	..	3	..	..	..	..	..	..
Common Grackle	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Cardinal	..	..	1	..	2	..	4	4	..	..	..	1	..	5	2	5
Evening Grosbeak	133	177	173	133	556	75	739	121	40	682	273	112	93	311	103	381
Purple Finch	..	14	8	9	2	7	2	1	*	22	60	..	*	5	3	5
Common Redpoll	42	31	..	..	53	25	..	..	..	..	104	..	..	..	4	1
Pine Siskin	4	..	..	..	17	12	2	..	..	..	18	1	*	29	8	14
American Goldfinch	..	..	13	2	..	..	146	7	14	119	2	12	2	34	113	239
Dark-eyed Junco	1	..	..	..	1	1	2	1	..	..	3	2	..	17	6	104
Tree Sparrow	..	4	..	..	..	..	40	1	..	..	..	5	5	85	79	6
White-throated Sparrow	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Song Sparrow	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Snow Bunting	..	11	..	18	..	..	28	2	..	200	..	..	..	166	30	..
TOTAL SPECIES	28	37	33	25	32	19	27	31	12	26	22	21	16	22	28	33

* Species observed during the count period but not on the day of the count.

TABLE 1. (continued)

	West Central												Central											
	Holcombe	New Richmond	Chippewa Falls	Hudson	Augusta	Durand	Nelson	Buffalo	Arcadia	Wausau	Dancy	Stevens Point	Black River Falls	Fremont	Wautoma	Neenah								
Count Number	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32								
Mallard	..	66	589	626	..	..	..	4009	28	389	..	72	..	77	82	7								
Black Duck	..	3	8	17	..	..	..	352	..	28	..	2	..	2	..	..						
Common Goldeneye	..	6	26	41	..	..	..	606	..	17	..	22	..	1	..	178								
Common Merganser	..	..	..	2	..	..	..	727	..	..	..	..	..	..	..	5								
Red-tailed Hawk	1	4	4	3	6	9	20	5	12	1	1	1	4	4	8	1								
Rough-legged Hawk	..	..	5	1	4	1	3	1	2	3	15	3	..	15	2	10								
Marsh Hawk	..	..	..	1	..	..	..	1	..	..	..	3	..	..	2	..								
American Kestrel	..	3	..	2	1	..	1	..	4	1	..	1	3	3	2	..								
Ruffed Grouse	2	13	4	2	..	4	5	..	3	4	..	15	..	3	12	..								
Pheasant	..	2	..	13	3	..	..	..	11	..	..	..	..	2	7	..								
Herring Gull	..	..	..	2	..	..	..	113	..	..	..	1	..	..	..	..				
Rock Dove	17	333	570	229	417	230	115	211	136	..	..	..	30	9	64	8								
Mourning Dove	15	13	22	2	37	80	13	19	2	15	2	54	20	61	90	1								
Great Horned Owl	..	..	1	3	1	..	..	..	..	..	..	..	..	*	2	..								
Belted Kingfisher	..	1	..	2	..	..	..	..	..	..	..	..	..	..	..	..
Common Flicker	..	..	..	1	..	..	..	..	2	..	..	1	5	2	1	..								
Pileated Woodpecker	..	1	1	2	..	2	..	*	1	..	..	2	3	..	2	..								
Red-bellied Woodpecker	1	7	3	11	3	22	9	27	7	..	..	2	7	3	21	..								
Red-headed Woodpecker	..	..	..	*	..	..	..	..	1	..	..	..	1	1	6	..								
Hairy Woodpecker	9	20	15	25	6	23	6	31	4	12	3	22	18	9	38	..								
Downy Woodpecker	9	18	29	36	23	20	8	26	10	13	4	50	19	23	59	1								
Horned Lark	..	..	..	3	..	..	..	..	25	..	..	50	..	..	..	..				
Blue Jay	36	61	107	73	47	64	20	110	51	65	101	188	60	53	168	5								
Common Crow	147	248	917	421	433	520	242	43	142	259	119	555	118	220	142	137								
Black-cap. Chickadee	123	53	146	108	256	89	46	116	32	134	71	390	42	32	240	14								
White-br. Nuthatch	11	21	48	60	58	51	22	36	14	39	5	97	32	23	136	4								
Red-breasted Nuthatch	..	..	..	6	..	..	..	1	1	7	1	3	5	..	3	..								
Brown Creeper	..	1	3	5	2	..	..	2	..	2	..	6	..	3	1	..								
American Robin	..	..	..	1	..	..	..	..	..	7	..	2	..	1	2	..								
Golden-crowned Kinglet	2	3	11	1	8	9	..	..	..	1	..	4	..	1	..	..						
Cedar Waxwing	..	..	..	11	..	..	..	20	..	..	..	..	..	..	..	..
Northern Shrike	3	3	2	3	1	..	1	..	1	3	3	1	1	2	..	..						
Starling	11	533	251	424	550	330	497	142	99	143	62	136	134	62	39	1								
House Sparrow	273	1206	2318	873	1480	2051	2265	1941	931	341	289	871	180	575	505	2								
meadowlark spp.	..	..	..	..	1	..	..	..	1	..	..	*	..	..	..	..		
Red-winged Blackbird	..	..	..	1	..	10	..	1	1	..	1	..	..	..	1	..								
Common Grackle	1	..	1	1	1	1	2	..	..	2	..	..	5	..	..	..					
Cardinal	..	7	35	36	14	77	49	175	58	13	15	64	34	13	75	..								
Evening Grosbeak	221	..	268	14	214	11	..	12	..	171	181	927	311	203	506	16								
Purple Finch	..	2	..	53	1	3	..	52	..	6	..	..	12	..	18	7								
Common Redpoll	..	..	..	3	..	..	..	1	..	12	44	65	25	..	..	..					
Pine Siskin	..	..	..	2	..	..	..	..	..	7	14	..	..	..	..	..			
American Goldfinch	2	32	456	49	2	120	125	336	3	46	21	248	20	135	191	2								
Dark-eyed Junco	..	18	102	89	52	142	66	404	119	27	3	415	130	104	483	30								
Tree Sparrow	30	264	142	187	185	107	159	424	54	108	45	130	18	18	71	22								
White-throated Sparrow	..	1	1	1	..	..	..	..	..	1	..	..	..	..	..	..		
Song Sparrow	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	
Snow Bunting	4	..	1	1	600	..	..	..	..	1	38	..	22	..	..	..					
TOTAL SPECIES	22	31	34	66	33	30	25	38	34	37	25	35	30	31	35	20								

TABLE 1. (continued)

	East Central													
	Green Bay	Shiocton	Appleton	Woodland Dunes NW	Stockbridge	Oshkosh	Woodland Dunes SW	Fond du Lac	Plymouth	Portage	Randolph	Poyntette		
Count Number	33	34	35	36	37	38	39	40	41	42	43	44		
Mallard	1282	..	1554	..	..	384	..	312	3	..	..	7	134	
Black Duck	520	..	416	9	..	8	..	2	..	..	..	..	115	
Common Goldeneye	77	..	637	1	..	38	..	..	..	..	..	..	..
Common Merganser	144	..	16	..	..	..	..	..	4	..	..	..	..
Red-tailed Hawk	1	3	28	1	2	..	2	9	..	2	2	15	..	
Rough-legged Hawk	5	13	7	..	..	..	1	3	..	1	..	10	..	
Marsh Hawk	..	1	1	..	3	..	..	..	1	..	1	1	..	
American Kestrel	5	4	31	1	..	13	4	10	*	2	*	4	..	
Ruffed Grouse	1	7	1	6	5	..	..	..	..	..	..	10	..	
Pheasant	50	11	351	3	1	22	1	2	2	5	20	87	..	
Herring Gull	374	..	17	..	..	15	..	3	102	1	..	2	..	
Rock Dove	260	12	71	137	156	342	3	639	17	202	210	220	..	
Mourning Dove	399	27	742	2	11	53	30	223	14	11	9	132	..	
Great Horned Owl	*	1	..	..	1	..	..	*	3	..	2	1	..	
Belted Kingfisher	..	..	2	..	..	..	..	..	1	..	..	1	..	
Common Flicker	..	2	3	..	..	1	..	1	..	..	..	5	..	
Pileated Woodpecker	..	2	1	..	..	..	..	..	..	..	..	3	..	
Red-bellied Woodpecker	1	6	5	..	2	4	1	4	7	..	1	8	..	
Red-headed Woodpecker	..	..	4	..	4	3	..	8	3	..	5	1	..	
Hairy Woodpecker	6	39	33	5	19	5	6	17	24	2	1	10	..	
Downy Woodpecker	23	39	71	8	22	35	32	52	49	2	7	45	..	
Horned Lark	..	1	39	..	4	..	6	10	..	..	6	101	..	
Blue Jay	78	76	77	37	26	85	43	42	69	9	29	107	..	
Common Crow	40	69	674	67	75	90	25	41	7	236	49	156	..	
Black-cap. Chickadee	11	124	63	32	63	9	65	45	102	..	29	140	..	
White-br. Nuthatch	31	47	73	14	43	50	28	73	59	2	5	54	..	
Red-breasted Nuthatch	..	..	11	..	..	7	2	9	..	..	..	6	..	
Brown Creeper	2	11	22	..	3	10	1	5	4	..	1	4	..	
American Robin	2	..	4	..	1	2	1	1	..	..	1	..	..
Golden-crowned Kinglet	*	..	3	..	..	6	2	1	..	..	..	5	..	
Cedar Waxwing	18	..	88	..	..	11	..	9	*	..	60	105	..	
Northern Shrike	1	2	2	1	..	..	1	..	1	1	..	2	..	
Starling	1097	148	1855	20	45	560	33	397	221	99	468	171	..	
House Sparrow	1667	2289	2070	281	291	1466	466	1043	833	155	750	723	..	
meadowlark spp.	1	2	41#	9	7	5	14	33	..	..	4	1	..	
Red-winged Blackbird	5	1	5	..	..	3	..	73	1	..	6	15	..	
Common Grackle	5	..	31	..	8	16	3	12	2	1	..	2	..	
Cardinal	27	42	77	14	34	32	26	28	42	10	8	47	..	
Evening Grosbeak	82	133	127	3	49	..	113	5	148	..	..	6	..	
Purple Finch	21	3	62	2	2	1	41	3	60	7	..	59	..	
Common Redpoll	8	..	2	..	6	18	..	18	..	..	..	2	..	
Pine Siskin	29	5	12	85	..	..	..	2	..	..	..	2	..	
American Goldfinch	59	67	190	23	9	*	29	68	32	50	15	93	..	
Dark-eyed Junco	180	131	380	106	59	119	98	186	171	90	41	542	..	
Tree Sparrow	67	64	373	52	15	108	27	236	69	..	304	444	..	
White-throated Sparrow	..	..	8	1	..	1	1	1	..	..	..	..	..
Song Sparrow	2	1	5	..	6	..	..	5	..	..	..	..	..
Snow Bunting	..	62	3	3	32	7	100	729	..	..	*	1	..	
TOTAL SPECIES	49	39	73	30	35	45	36	48	43	22	28	55		

3 Eastern Meadowlarks, 1 Western Meadowlark

TABLE 1. (continued)

	Southwest										Southeast									
	LaCrosse	Richland Center	Sauk City	Clyde	Blanchardville	Beetown	Cornelia	Hartford	Oconomowoc	Madison	Waukeesa	Fort Atkinson	Cooksville	Evansville	Beloit	Lake Geneva				
Count Number	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60				
Mallard	508	42	309	..	3	9	..	..	372	3423	104	26	59	..	594	156				
Black Duck	3	..	..	..	..	..	..	..	20	98	24	..	..	..	13	2				
Common Goldeneye	2	..	145	..	..	..	..	12	51	470	11	..	9	..	24	350				
Common Merganser	1	..	86	..	..	..	..	22	152	972	..	..	..	..	..	270				
Red-tailed Hawk	9	21	59	4	8	37	41	6	30	29	31	1	6	21	15	3				
rough-legged Hawk	2	14	56	2	7	21	9	2	12	4	3	..	4	18	4	5				
Marsh Hawk	..	1	1	..	..	..	1	..	..	4	2	1	..	..	5	1				
American Kestrel	2	13	16	*	3	4	9	6	22	4	8	1	1	4	17	1				
huffed Grouse	15	13	25	21	1	..	..	..	..	1	*	..	..	..	..	..
Pheasant	1	5	2	..	2	1	..	5	15	84	16	2	6	32	91	7				
Herring Gull	2	..	1500	..	..	..	..	32	435	468	531	..	..	..	..	387				
Rock Dove	225	1400	764	35	145	449	346	185	..	903	347	..	8	36	509	46				
Mourning Dove	2	122	222	..	17	40	72	17	63	208	347	53	4	22	159	8				
Great Horned Owl	..	..	5	1	19	..	..	1	..	10	2	1	4	1	9	..				
Belted Kingfisher	2	3	2	..	1	6	8	..	4	3	4	..	*	1	1	3				
Common Flicker	..	3	15	..	..	..	..	..	4	6	11	1	..	4	3	2				
Pileated Woodpecker	2	11	6	..	..	1	2	..	..	..	..	..	..	..	..	..
Red-bellied Woodpecker	23	44	71	1	4	21	17	4	6	26	8	*	4	..	4	5				
Red-headed Woodpecker	..	48	4	..	5	15	17	6	..	2	2	..	..	2	9	2				
Hairy Woodpecker	16	26	36	4	6	11	11	8	9	52	22	5	2	5	5	17				
Downy Woodpecker	41	26	75	8	17	15	24	23	32	136	54	15	8	4	53	21				
Horned Lark	100	..	4	..	..	44	..	..	..	..	54	..	50	87	43	16				
Blue Jay	98	237	214	47	50	80	76	11	45	316	74	8	17	11	63	4				
Common Crow	105	549	1315	51	67	197	143	16	133	628	454	15	156	53	A	142				
Black-cap. Chickadee	111	158	210	62	39	70	43	28	114	370	99	20	8	19	58	81				
White-br. Nuthatch	56	68	110	63	21	44	24	17	33	172	43	12	5	7	19	18				
Red-breasted Nuthatch	3	7	10	..	..	..	1	*	2	22	3	..	..	..	..	3				
Brown Creeper	7	4	3	..	..	1	1	5	3	31	2	..	..	..	2	4				
American Robin	45	1	1	1	..	..	6	..	5	35	3	..	1	1	15	11				
Golden-crowned Kinglet	8	16	18	6	2	1	..	..	*	53	21	..	*	3	5	4				
Cedar Waxwing	3	3	6	..	..	21	..	..	97	134	128	..	9	2	95	6				
Northern Shrike	3	2	3	..	..	1	..	1	1	2	..	..	..	..	..	..
Starling	651	671	1297	8	230	787	1459	221	759	2127	625	70	47	58	2117	612				
House Sparrow	2098	2395	2271	..	1015	2045	2501	673	1412	2575	1403	66	370	250	3381	355				
meadowlark spp.	..	..	7	..	5	28	21	..	12	6	3	*	*	13	7	..				
Red-winged Blackbird	164	1	3	..	55	3	291	..	12	107	12	..	..	..	5	9				
Common Grackle	..	..	3	..	..	..	9	2	9	45	18	*	..	1	..	10				
Cardinal	130	261	160	25	33	114	124	18	39	240	59	16	9	7	77	60				
Evening Grosbeak	4	20	65	..	..	..	..	10	*	3	73	..	*	..	..	..	
Purple Finch	3	31	107	40	..	16	2	6	61	49	40	4	8	..	11	10				
Common Redpoll	..	..	..	..	..	10	..	..	..	20	..	..	..	4	..	..		
Pine Siskin	..	..	..	..	..	..	..	..	..	21	..	..	..	..	..	..
American Goldfinch	75	199	419	1	24	306	44	18	132	139	63	34	3	23	66	11				
Dark-eyed Junco	193	237	1118	70	67	487	484	44	374	783	1227	29	30	51	628	73				
Tree Sparrow	262	524	692	36	290	1292	1032	228	1119	1554	1950	339	310	125	2336	112				
White-throated Sparrow	3	..	..	1	..	..	..	..	..	13	4	..	..	..	2	1				
Song Sparrow	3	2	..	..	1	6	5	4	10	38	7	2	2	2	15	6				
Snow Bunting	..	..	..	..	..	..	..	7	..	1	90	..	..	..	..	8				
TOTAL SPECIES	55	41	55	25	33	42	36	37	50	91	60	23	28	37	49	58				

A - 12309 Common Crows at Beloit

TABLE 1. (continued)

	Lake Michigan											
	Ephraim	Sturgeon Bay	Woodland Dunes NE	Woodland Dunes SE	Newburg	Milwaukee	Hales Corners	Racine	Kenosha	Total Counts	Total Individuals	
Count Number	61	62	63	64	65	66	67	68	69	Total	Total	
Mallard	30	200	42	102	24	3746	571	1199	34	45	21655	
Black Duck	..	12	2	97	..	168	56	65	..	29	2073	
Common Goldeneye	103	43	9	23	13	595	209	144	24	37	4032	
Common Merganser	1	..	..	14	30	6	60	10	2	20	2553
Red-tailed Hawk	..	..	..	2	10	6	10	13	24	49	536
Rough-legged Hawk	3	..	2	1	9	1	..	..	12	54	402
Marsh Hawk	..	..	*	..	2	1	..	1	..	20	34
American Kestrel	1	..	1	4	23	12	10	29	28	43	315	
Ruffed Grouse	4	1	6	..	1	..	..	..	..	37	212
Pheasant	..	..	9	2	27	53	84	62	34	39	1133
Herring Gull	590	50	161	199	327	501	602	364	692	29	8692	
Rock Dove	..	3	280	20	463	714	288	220	580	57	12922	
Mourning Dove	14	7	85	20	111	285	97	129	348	57	4630	
Great Horned Owl	..	..	2	..	1	2	..	*	1	31	84
Belted Kingfisher	..	..	2	..	1	1	..	..	2	22	52
Common Flicker	..	..	3	1	3	1	*	3	2	26	86
Pileated Woodpecker	4	..	..	..	..	..	..	..	..	27	61
Red-bellied Woodpecker	..	..	1	1	5	5	1	2	3	47	426
Red-headed Woodpecker	..	..	..	5	1	1	..	..	3	27	162
Hairy Woodpecker	39	1	14	1	48	12	6	11	10	67	944	
Downy Woodpecker	55	1	51	6	109	68	17	28	29	69	1843	
Horned Lark	..	..	..	5	1	..	..	..	28	21	577
Blue Jay	54	..	80	8	109	67	25	28	31	68	4510	
Common Crow	212	213	87	22	121	309	A	152	391	67	39651	
Black-cap. Chickadee	274	57	110	3	331	217	61	16	50	68	6478	
White-br. Nuthatch	47	..	55	5	109	52	17	14	25	68	2417	
Red-breasted Nuthatch	15	2	3	..	5	18	1	2	1	43	372	
Brown Creeper	..	..	6	..	7	11	4	..	1	45	205
American Robin	1	..	1	..	7	34	8	12	8	34	231	
Golden-crowned Kinglet	..	..	4	..	4	7	2	1	3	36	227
Cedar Waxwing	..	..	71	..	3	37	24	71	66	26	1140
Northern Shrike	2	2	2	..	2	2	1	1	1	46	85	
Starling	43	12	92	24	1072	B	980	1208	737	66	160525	
House Sparrow	116	30	617	66	1374	1357	867	1038	927	67	59543	
meadowlark spp.	..	..	2	22	..	..	..	..	42	24	287
Red-winged Blackbird	1	..	*	..	..	11	350	..	20	31	1173
Common Grackle	7	..	..	..	9	61	14	62	4	32	349
Cardinal	70	*	51	..	79	113	35	41	44	58	2879	
Evening Grosbeak	113	*	134	..	4	14	..	..	1	49	8264
Purple Finch	22	..	121	6	23	10	7	3	4	54	1137	
Common Redpoll	13	..	1	..	14	..	..	2	..	26	528
Fine Siskin	125	30	94	..	14	6	..	2	..	25	555	
American Goldfinch	7	..	90	3	131	121	44	23	65	63	5167	
Dark-eyed Junco	41	..	137	20	564	542	436	145	448	61	12649	
Tree Sparrow	..	..	55	34	1171	126	586	344	737	58	19202
White-throated Sparrow	1	..	1	..	12	22	2	..	..	21	82
Song Sparrow	..	..	1	6	5	6	20	11	18	32	199
Snow Bunting	17	..	5	..	..	..	..	..	..	28	2187
TOTAL SPECIES	39	19	47	32	63	68	47	57	58	141		

A - 15600 Common Crows at Hales Corners

B - 135000 Starlings at Milwaukee

TABLE 2. BIRDS SEEN ON LESS THAN 20 COUNTS

Species	No. of Counts	Total Birds	Counts and Numbers Seen
Common Loon	1	1	Madison 1
Horned Grebe	1	11	Madison 11
Pied-billed Grebe	7	27	Solon Springs 2, La Crosse 1, Oconomowoc 8, Madison 3, Waukesha 2, Lake Geneva 10, Newburg 1
Great Blue Heron	2	2	Waukesha 1, Woodland Dunes NE 1
Mute Swan	2	6	Bayfield 3, Ashland 3
Whistling Swan	4	68	Nelson 1, (Buffalo), Green Bay 3, Poynette 1, La Crosse 63, (Madison), (Woodland Dunes NE)
Canada Goose	16	2317	(Buffalo), Arcadia 1, Wausau 2, Green Bay 621, Oshkosh 63, Fond du Lac 5, Portage 55, Poynette 6, La Crosse 541, Oconomowoc 8, Madison 300, Waukesha 2, Evansville 24, Lake Geneva 507, Woodland Dunes NE 7, Milwaukee 6, Racine 185
Snow Goose	1	1	(Ashland), Milwaukee 1
Gadwall	1	565	Madison 565
Pintail	3	6	Appleton 3, Madison 1, Milwaukee 2
Green-winged Teal	2	6	Madison 3, Racine 3
Blue-winged Teal	3	7	Green Bay 1, Poynette 2, Racine 4
American Wigeon	4	14	Appleton 3, Madison 6, Waukesha 1, Milwaukee 4
Northern Shoveler	2	25	Appleton 4, Madison 21
Wood Duck	8	18	Hudson 1, Appleton 1, Fond du Lac 2, La Crosse 2, Oconomowoc 3, Madison 5, Waukesha 2, Milwaukee 2
Redhead	8	27	Ashland 2, Appleton 4, La Crosse 4, Oconomowoc 3, Madison 3, Lake Geneva 3, Milwaukee 5, Racine 3
Ring-necked Duck	1	131	Buffalo 90, Wausau 1, Oshkosh 4, Sauk City 1, Oconomowoc 1, Madison 33, Waukesha 1
Canvasback	11	469	Hudson 1, Buffalo 141, Appleton 5, Oshkosh 2, La Crosse 13, Oconomowoc 4, Madison 271, Lake Geneva 1, Newburg 6, Milwaukee 4, Racine 21
Greater Scaup Duck	5	2132	Newburg 17, Milwaukee 1850, Hales Corners 244, Racine 6, Kenosha 15
Lesser Scaup Duck	14	163	Bayfield 1, Solon Springs 1, Holcombe 1, Hudson 1, Dancy 3, Appleton 9, Oshkosh 39, Poynette 1, La Crosse 1, (Hartford), Madison 75, Waukesha 4, Lake Geneva 9, Ephraim 11, Racine 7
Bufflehead	12	723	Ashland 1, Hudson 1, Buffalo 53, Appleton 1, Madison 80, Lake Geneva 10, Ephraim 25, Sturgeon Bay 26, Milwaukee 68, Hales Corners 300, Racine 155, Kenosha 3
Oldsquaw	9	7499	Madison 1, Ephraim 3, Woodland Dunes NE 118, Woodland Dunes SE 75, Newburg 35, Milwaukee 5313, Hales Corners 776, Racine 1030, Kenosha 148
White-winged Scoter	2	3	Madison 1, Woodland Dunes NE 1, Newburg 1
Black Scoter	1	1	Racine 1
Ruddy Duck	8	119	Appleton 3, Oshkosh 80, Fond du Lac 1, Madison 17, Lake Geneva 7, Newburg 3, Milwaukee 4, Racine 4

TABLE 2. (continued)

Species	No. of Counts	Total Birds	Counts and Numbers Seen
Hooded Merganser	7	139	Hudson 1, Buffalo 112, Appleton 2, Oconomowoc 1, Madison 9, Lake Geneva 10, Ephraim 4, (Racine)
Red-br. Merganser	17	265	Bayfield 7, Ashland 4, Hudson 2, Oshkosh 1, La Crosse 1, Hartford 10, Oconomowoc 3, Madison 2, Waukesha 5, Lake Geneva 8, Sturgeon Bay 5, Woodland Dunes NE 3, Newburg 3, Milwaukee 28, Hales Corners 149, Racine 331, Kenosha 2
Turkey Vulture	1	1	Sauk City 1
Goshawk	15	21	Grantsburg 3, Cedar Lake 1, Antigo 1, Holcombe 1, (Hudson), Wausau 2, Wautoma 1, Appleton 2, Blanchardville 1, Beetown 1, (Madison), Waukesha 1, (Woodland Dunes SE), Newburg 1, Milwaukee 1, Hales Corners, Racine 1, Kenosha 2
Sharp-sh. Hawk	10	12	Hudson 1, Augusta 1, Durand 2, (Wautoma), Shiocton 1, Oshkosh 1, Sauk City 1, Clyde 1, Beloit 1, Ephraim 1, (Woodland Dunes NE), Newburg 2
Cooper's Hawk	9	11	Shawano 1, Hudson 1, Arcadia 1, Appleton 1, Portage 1, Poynette 1, Sauk City 3, Oconomowoc 1, (Cooksville), (Evansville), Beloit 1, (Woodland Dunes NE)
Red-shouldered Hawk	6	6	Hudson 1, Wautoma 1, (Green Bay), Shiocton 1, Appleton 1, La Crosse 1, Beetown 1, (Oconomowoc)
Broad-winged Hawk	1	1	Madison 1
Golden Eagle	2	3	Durand 1, Nelson 2
Bald Eagle	18	178	(Bayfield), Ashland 1, Brule 2, Grantsburg 1, Cedar Lake 2, (Sayner), Rhinelander 1, New Richmond 2, Chippewa Falls 1, Hudson 1, Augusta 3, Nelson 23, Buffalo 40, Dancy, Necedah 20, Green Bay 1, La Crosse 4, Richland Center 1, Sauk City 49, Beetown 25
Merlin	1	2	Wautoma 2, (Woodland Dunes SW)
Prairie Chicken	1	67	Dancy 67
Sharp-t. Grouse	2	9	Ashland 5, Fifield 4
Bobwhite	6	38	La Crosse 1, Sauk City 5, Clyde, Evansville 8, Beloit 18, Newburg 1
Gray Partridge	5	418	Green Bay 28, Appleton 158, Woodland Dunes NW 9, Stockbridge 9, Woodland Dunes SW 22, Fond du Lac 40, Plymouth 36, Poynette 5, Cornelia 7, Hartford 24, Evansville 15, Lake Geneva 9, Woodland Dunes NE 17, Newburg 10, Milwaukee 29
King Rail	1	2	Madison 2
Virginia Rail	2	2	Oconomowoc 1, Madison 1
Sora	1	1	Green Bay 1, (Oconomowoc)
American Coot	18	6076	Ashland 1, Hudson 1, Stevens Point 1, Green Bay 1, Appleton 3, Oshkosh 1, Fond du Lac 1, La Crosse 1, Oconomowoc 489, Madison 3540, Waukesha 16, Beloit 2, Lake Geneva 2000, Ephraim 1, Newburg 3, Milwaukee 2, Hales Corners 6, Racine 7

TABLE 2. (continued)

Species	No. of Counts	Total Birds	Counts and Numbers Seen
Killdeer	5	10	Arcadia 2, Richland Center 4, Beetown 2, Cornelia 1, Madison 1
Common Snipe	8	18	Poynette 5, La Crosse 2, Richland Center 4, Sauk City 1, Cornelia 2, Hartford 1, Madison 2, Waukesha 1
Glaucous Gull	2	3	Bayfield 2, Kenosha 1
Iceland Gull	1	1	Kenosha 1
Ring-billed Gull	10	1541	Buffalo 2, Fond du Lac 1, Madison 271, Waukesha 34, Lake Geneva 4, Newburg 16, Milwaukee 352, Hales Corners 157, Racine 172, Kenosha 532
Black-l. Kittiwake	1	1	Madison 1
Bonaparte's Gull	5	356	Lake Geneva 5, Newburg 30, Milwaukee 6, Racine 309, Kenosha 6
Screech Owl	14	52	Brule 1, Hudson 3, Appleton 2, Fond du Lac 1, Randolph 4, Poynette 2, La Crosse 1, Blanchardville 4, Madison 9, (Fort Atkinson), (Cooksville), Beloit 4, Lake Geneva 7, Milwaukee 4, Racine 3, Kenosha 7
Snowy Owl	8	14	Ashland 3, Grantsburg 1, (Hudson), Arcadia 1, Green Bay 4 (Shiocton), Appleton 2, Madison 1, (Beloit), (Woodland Dunes NE), Woodland Dunes SE 1, (Milwaukee), Racine 1
Barred Owl	18	30	Brule 3, Solon Springs 1, Fifield 2, Cedar Lake 1, (Antigo), Shawano 1, New Richmond 1, Augusta 2, Hudson 1, (Buffalo), (Fremont), Shiocton 1, Woodland Dunes NW 3, Plymouth 1, Poynette 1, La Crosse 2, Cornelia 2, Hartford 5, Oconomowoc 1, Evansville 1, Newburg 1
Long-eared Owl	4	5	Brule 1, Clyde 1, Madison 2, Hales Corners 1
Short-eared Owl	9	16	Brule 1, Woodland Dunes SW 2, Richland Center 1, Beetown 4, Oconomowoc 1, Madison 2, Evansville 2, Beloit 2, (Milwaukee), Racine 1
Great Gray Owl	1	1	Brule 1
Yel-b. Sapsucker	5	6	Buffalo 1, Black River Falls 1, Appleton 1, Racine 2, Kenosha 1
Gray Jay	4	34	Fifield 9, Oxbow 11, (Sayner), Rhinelander 12, Summit Lake 2
Common Raven	13	625	Bayfield 52, Ashland 10, Brule 286, Solon Springs 192, Fifield 21, Oxbow 8, Cedar Lake 8, Sayner 4, Rhinelander 12, Summit Lake 18, Lakewood 4, (Antigo), Augusta 9, Ephraim 1
Boreal Chickadee	4	6	Fifield 1, Rhinelander 3, Summit Lake 1, Hudson 1
Tufted Titmouse	19	81	Chippewa Falls 15, Hudson 1, Augusta 2, Durand 1, Black River Falls 1, Green Bay 1, Fond du Lac 1, Poynette 4, Richland Center 14, Sauk City 7, Clyde 2, Blanchardville 1, Beetown 13, Cornelia 5, Oconomowoc 6, Madison 3, (Fort Atkinson), Cooksville 1, Evansville 2, Beloit 1
Winter Wren	10	15	Green Bay 1, Woodland Dunes NW 1, Stockbridge 1, Sauk City 1, Blanchardville 1, Madison 5, Waukesha 1, Lake Geneva 2, Newburg 1, Milwaukee 1
Carolina Wren	2	3	Madison 1, Milwaukee 2, (Racine)

TABLE 2. (continued)

Species	No. of Counts	Total Birds	Counts and Numbers Seen
Mockingbird	2	2	Shiocton 1, Appleton 1
Gray Catbird	1	1	Newburg 1
Brown Thrasher	8	9	Hudson 1, Wausau 1, Fremont 1, Madison 2, Beloit 1, Newburg 1, Milwaukee 1, Hales Corners 1
Curve-b. Thrasher	1	1	Buffalo 1
Varied Thrush	1	1	Peshtigo 1
Hermit Thrush	1	1	Madison 1
Eastern Bluebird	1	1	Kenosha 1
Mountain Bluebird	1	1	Ephraim 1
Ruby-cr. Kinglet	9	14	Hudson 2, Stevens Point 1, Black River Falls 1, Sauk City 1, Beetown 1, Madison 3, Waukesha 2, Evansville 2, (Beloit), Milwaukee 1
Bohemian Waxwing	4	9	Appleton 1, Oshkosh 1, Poynette 6, Kenosha 1
Yellow-r. Warbler	2	2	Hudson 1, Sauk City 1
Pine Warbler	1	1	Durand 1
Northern Oriole	1	1	Madison 1
Rusty Blackbird	8	21	Merrill 2, Appleton, Blanchardville 1, Madison 4, Waukesha 1, (Fort Atkinson), Lake Geneva 1, Hales Corners 10, Kenosha 1
Brewer's Blackbird	3	12	(Peshtigo), Cornelia 8, Madison 2, Beloit 2
Brown-h. Cowbird	17	245	Solon Springs 2, Chippewa Falls 2, Hudson 1, (Buffalo), Green Bay 51, Appleton 1, Oshkosh 1, Woodland Dunes SW 5, La Crosse 18, Sauk City 2, Beetown 1, Oconomowoc 29, Madison 111, (Waukesha), Lake Geneva 3, Sturgeon Bay 1, Woodland Dunes NE 9, Hales Corners 7, Kenosha 1
Pine Grosbeak	11	150	Bayfield 21, Ashland 61, Brule 8, Solon Springs 5, Fifield 12, Sayner 5, Rhinelander 15, Summit Lake 17, (Antigo), (Stevens Point), Shiocton 2, Woodland Dunes SW 1, Racine 3
Red Crossbill	6	48	Bayfield 10, Brule 10, Solon Springs 5, Cedar Lake 3, Hudson 2, Milwaukee 18
White-w. Crossbill	2	22	Fifield 15, Milwaukee 7
Rufous-s. Towhee	6	8	Fifield 1, Appleton 3, Stockbridge 1, Hartford 1, Madison 1, Hales Corners 1
Chipping Sparrow	1	2	Milwaukee 2
Field Sparrow	4	10	Waukesha 1, Beloit 1, Newburg 4, Kenosha 4
Harris' Sparrow	1	1	Woodland Dunes NE 1
White-cr. Sparrow	2	7	Beloit 2, Kenosha 5
Fox Sparrow	4	7	(Bayfield), Wausau 1, Appleton 1, Woodland Dunes SW 3, (Waukesha), Milwaukee 2
Swamp Sparrow	13	43	Green Bay 2, Sauk City 4, Hartford 1, Madison 9, Waukesha 4, Fort Atkinson 1, Beloit 1, Lake Geneva 2, (Woodland Dunes NE), Newburg 9, Milwaukee 2, Hales Corners 6, Racine 1, Kenosha 1
Lapland Longspur	8	377	Chippewa Falls 1, Hudson 3, Nelson 10, Appleton 40, Stockbridge 20, Oshkosh 202, (Fond du Lac), Beetown 100, Madison 1, (Kenosha)

TABLE 3. DETAILS OF THE COUNTS

Name of Count	Date	a.m.	p.m.	Sky	Snow (in)	Wind	Temp. Low High	Feeders	Observers	Parties	Total Party Hours
Antigo	D-29	8:00-4:00		Cloudy	9	NW 7	28 33	2	9	4	26
Arcadia	D-28	7:00-4:45		PCl	2	SW 10-20	20 35	0	5	3	19
Ashland	D-14	8:30-4:00		Cloudy	4	NW 0-5	28 33	3	19	4	26
Augusta	J-1	5:45-5:15		Sn-F	3	W 5-12	16 26	0	7	3	24
Bayfield	D-27	7:30-4:30		PCl	8	Calm	20 30	6	8	3	22
Beetown	D-28	7:15-5:30		MC1	2	SW 10-15	34 38	0	7	3	30
Beloit	D-29	4:45-6:00		Fog-R	tr	SW 5-10	32 35	4	23	10	65
Bl. River Falls	D-28	8:00-4:00		C1-F	4	SE	34 40	11	4	2	7
Blanchardville	D-30	6:00-5:30		Fair	4	Calm	21 31	0	2	1	11
Brule	D-20	5:30-6:00		MC1	8	SW	19 26	4	7	3	16
Buffalo	D-19	7:00-5:00		Cloudy	4	WNW 10-20	20 28	11	2	1	8
Cedar Lake	D-30	6:30-4:30		Fair	5	NW 0-5	0 30	0	2	1	10
Chippewa Falls	D-22	7:00-5:00		Cloudy	2	ESE 10-20	13 23	2	11	6	40
Clyde	D-31	7:30-4:30		C1-Sn	2	NNW 2-5	29 32	0	5	2	18
Cooksville	D-31	7:00-4:30		Cloudy	2	SE 0-3	31 34	1	5	2	9
Cornelia	D-29	8:00-5:30		Fog-C1	1	S 0-5	31 36	0	7	3	29
Dancy	D-19	7:00-4:00		Fair	9	SSE 0-5	18 25	0	9	2	16
Durand	D-14	7:30-4:00		Cloudy	1	Calm	31 33	0	9	2	16
Ephraim	D-21			Cloudy	3	W 0-4	22 30	24	10	4	27
Evansville	D-25	7:00-3:00		PCl	3	SE 5-10	30 30	0	1	1	8
Fifield	D-22	7:30-4:30		Cloudy	7	SE 5-10	13 25	13	4	4	19
Fond du Lac	D-28	6:30-4:45		Cloudy	2	SE 10	25 30	5	20	6	45
Ft. Atkinson	D-29	8:00-4:45		Cloudy	1	SW-NW	30 39	2	8	2	7

TABLE 3. (continued)

Name of Count	Date	a.m. p.m.	Sky	Snow (in)	Wind	Temp. Low High	Feeders	Observers	Parties	Total Party Hours
Fremont	D-23	7:00-4:00	PC1-F	5	SW 4-14	24 36	0	2	1	9
Grantsburg	D-21	8:00-4:00	C1-PC1	3	WSW 0-6	20 24	4	13	7	51
Green Bay	D-28	6:30-4:30	Cloudy	2	SW 15-20	33 40	12	28	5	30
Hales Corners	D-15	7:00-4:30	C1-PC1	0	SE 10-20	35 42	3	15	13	55
Hartford	D-31	6:30-4:30	Fog-Sn	2	Calm	32 34	5	9	2	12
Holcompe	D-23	7:00-4:15	Fair	3	SW 8-12	24 32	0	3	1	9
Hudson	J-1	5:45-5:00	Fair	1	NW-W 7-9	15 28	20	9	4	23
Kenosha	D-28	6:00-12:00	Fair	4	WNW 0-5	28 38	8	20	9	62
LaCrosse	D-14	6:00-5:00	Cloudy	2	NW 0-10	10 25	0	18	7	53
Lake Geneva	D-21	4:00-4:30	Cloudy	4	N 0-10	20 26	3	4	3	31
Lakewood	D-20	7:30-4:30	Cloudy	13	SW 0-10	16 30	0	1	1	8
Madison	D-14	4:00-4:30	Fog-C1	2	SE 3-9	34 35	10	62	25	192
Merrill	D-27	7:30-5:00	F-MC1	7	SW 5-8	24 34	0	2	1	9
Milwaukee	D-29	5:30-5:00	Cloudy	1	W 11-17	31 38	14	30	13	97
Necedah	D-22	9:30-5:00	C1-F	2	ESE 8-10	22 32	0	3	1	7
Nelson	D-28	7:00-5:00	Fair	1	ESE 5-15	31 40	0	5	2	20
Newburg	D-28	6:00-5:00	PC1	4	NW 8-15	25 34	10	25	17	99
New Richmond	D-21	7:30-4:00	Cloudy	3	SE	19 22	0	5	2	17
Oconomowoc	D-29	7:00-3:30	Fog	2	SW 3-5	35 38	3	20	4	49
Oshkosh	D-14	7:00-4:00	Fog-R	tr	SSE 6-9	31 35	1	29	13	64
Oxbow	D-14	8:00-4:00	Cloudy	2	SE 0-5	28 32	2	2	1	6
Peshtigo	D-21	7:45-4:00	Cloudy	4	Var 2-4	16 30	0	6	3	18
Plymouth	D-15	6:45-11:30	Sn-Fog	7	SSE 5-15	32 37	38	31	11	111

TABLE 3. (continued)

Name of Count	Date	a.m.	p.m.	Sky	Snow (in)	Wind	Temp. Low High	Feeders	Observers	Parties	Total Party Hours
Portage	D-15	8:30	5:00	C1-PC1	1	SSE 0-5	34 35	0	3	1	8
Poynette	D-22	5:50	4:45	C1-PC1	4	SE 10-15	26 32	5	12	4	38
Racine	D-14	6:00	5:00	Fog-C1	0	SE 2-16	38 39	8	24	7	51
Randolph	D-29	6:00	5:00	Cloudy	2	ESE 0-10	32 36	0	1	1	11
Rhinelanders	D-28	8:00	4:00	Fair	6	SW	20 40	7	10	3	24
Richland Center	D-21	8:00	5:00	Cloudy	4	Calm	18 26	1	23	9	47
Sauk City	J-1	6:45	5:00	F-PC1	2	NW 8-15	18 25	2	28	10	73
Sayner	D-31	8:30	4:30	F-PC1	10	Calm	10 34	11	2	1	4
Shawano	D-28	8:00	3:00	Cloudy	9	W 5-10	20 30	11	5	3	8
Shiocton	D-21	7:00	4:30	Cloudy	5	W 0-6	16 23	4	3	2	19
Solon Springs	D-18	6:00	6:00	Cloudy	8	WNW	9 23	2	4	2	20
Stevens Point	D-14	7:30	3:30	Cloudy	5	E 5-10	20 28	30	31	8	48
Stockbridge	D-22	7:00	5:00	MC1	4	SE 5-20	15 30	0	13	8	54
Sturgeon Bay	D-30	8:45	4:00	Fair	1	SW 5	16 23	0	2	1	7
Summit Lake	D-22	7:00	4:00	Cloudy	12	W 0-10	11 21	1	3	1	8
Wausau	D-29	8:00	4:00	Fog-F	8	W 0-5	30 34	4	13	7	30
Waukesha	D-22	6:30	4:30	Cloudy	4	S 5-20	15 30	14	21	12	93
Wautoma	D-30	7:00	5:00	Fair	3	S 5-20	10 34	28	9	6	21
Wood, Dunes NE	D-29			Cloudy	4	W 0-10	30 35	5	27	10	
Wood, Dunes NW	D-29			Cloudy	4	W 0-10	30 35	2	6	4	
Wood, Dunes SE	D-29			Cloudy	4	W 0-10	30 35	1	8	4	
Wood, Dunes SW	D-29			Cloudy	4	W 0-10	30 35	13	5	3	

C1 = Cloudy F = Fair MC1 = Mostly Cloudy, PC1 = Partly Cloudy R = Rain Sn = Snow

TABLE 4.

COUNT, COUNT NUMBER (FIG. 1), CENTER OF
COUNT AREA AND COMPILER

- Antigo** (14); Public Library; Bernard Pickering, Box 220 A, R.F.D., 1, Antigo, WI 54409
- Arcadia** (25); Jct. Hwy J and town road 1½ mi. S of Arcadia; Tom Roskos, Rt. 1, Box 84, Arcadia, WI 54612
- Ashland** (2); Jct. Hwy 2 and 13 in town; Richard Verch, Biology Dept., Northland College, Ashland, WI 54806
- Augusta** (21); Hwy V 1 mi. W of Hwy 12; Sam Robbins, Box 117, Cadott, WI 54727
- Bayfield** (1); Center Section 22, T50N, R5W; David Bratley, Box 518, Washburn, WI 54891
- Beetown** (50); Beetown; Terrence Ingram, Box 152, Apple River, IL 61001
- Beloit** (59); N end of Big Hill Park; Thomas Ellis, 1757 Townline Ave., Beloit, WI 53511
- Black River Falls** (29); Black River Falls; Mrs. Francis Harmer, Rt. 1, Box 58, Black River Falls, WI 54615
- Blanchardville** (49); 2½ mi. SW of Blanchardville; David Willard, 2306 Hollister Ave., Madison, WI 53705
- Brule** (3); Jct. Hwys 27 and B; Bernard Klugow, D.N.R. Box 3600, Green Bay, WI 54303
- Buffalo** (24); Jct. town roads T21N, R12W, S 26-35; Lorena Maier, 14th and Bellvidere St., Buffalo City-Cochrane, WI 54622
- Cedar Lake** (8); Cedar Lake; Craig Faanes (no address)
- Chippewa Falls** (19); Jct. Hwys 178 and S; Charles Kemper, Box 2, Chippewa Falls, WI 54729
- Clyde** (48); Standart-Hwy 130, 1 mi. W of Hwy 23; Bill Sievert, 8430 W. Capitol Dr., Milwaukee, WI
- Cooksville** (57); Cooksville; John Wilde, Rt. 1, Evansville, W\$ 53536 (Evansville count centered at Gibbs Lake combined with this count this year)
- Cornelia** (51); Cornelia; Terrence Ingram, Box 152, Apple River, IL 61001
- Dancy** (27); 3 mi. W of Dancy; Don Helgersen, Rt. 1, Chili, WI 54420
- Durand** (22); 1½ mi. N of Durand bridge; Charles Kemper, Box 2, Chippewa Falls, WI 54729
- Ephraim** (61); Hwy A, 3 mi. S. Jct. with Hwy 42; Roy Lukes, Box 152, Baileys Harbor, WI 54202
- Evansville** (58); downtown Evansville; Dan Hazlett, Rt. 2, Evansville, WI 53536 (This count severely overlaps the Cooksville count and should be combined)
- Fifield** (5); Fifield Post Office; Thomas Nicholls, 2160 Draper Ave., Roseville, MN 55113
- Fond du Lac** (40); Tower and Coty Roads; Walter Gilles, 41 Algoma St., Fond du Lac, WI 54935
- Fort Atkinson** (56); Fort Atkinson; Richard Wanie, 208 S. 4th St., Fort Atkinson, WI
- Fremont** (30); Jct. Hwys I and HH, 4 mi. SW of Fremont; Daryl Tessen, 2 Pioneer Park Place, Elgin, IL 60120
- Grantsburg** (7); Jct. Hwys 70 and 87; Clarence Wagman, Box 166, Grantsburg, WI 54840
- Green Bay** (33); Allowez Ave. and South Webster; Mrs. Ida Baumann, Wildlife Sanctuary, 1660 East Shore Drive, Green Bay, WI 54302
- Hales Corners** (67); Jct. Puetz Rd. and Hwy 41 (old); John Idzikowski, 418 E. Plainfield Ave., Milwaukee WI 53207
- Hartford** (52); Hartford; Mrs. Norma Schmidt, 450 Seventh St., Hartford, WI
- Holcombe** (17); Chippewa-Rusk Co. line, 1 bi. E of Hwy 27; Sam Robbins, Box 117, Cadott, WI 54727

TABLE 4. (continued)

- Hudson** (20); South end of Lake St. Croix; Manley Olson, 1974 W. Summer St., St. Paul, MN 44113
- Kenosha** (69); Jct. Hwys K and HH; Ronald Hoffmann, Box 886, Kenosha, WI
- La Crosse** (45); La Crosse Co. Courthouse; Fred Leshner, 509 Winona St., La Crosse, WI 54601
- Lake Geneva** (60); Williams Bay; Clarence Palmquist, 834 Windsor Rd., Glenview, IL 60025
- Lakewood** (13); Jct. Hwy T and FR 2117; John Woodcock, Rt. 1, Box 228, Mountaintain, WI 54149
- Madison** (54); State Capitol; William Hilsenhoff, 33 S. Eau Claire Ave., Madison, WI 53705
- Merrill** (12); NE corner S-31, 3 mi. NW of Merrill; Alan Rusch, 540½ W. Washington Ave., Madison, WI 53703
- Milwaukee** (66); Hampton Ave. and Port Washington Rd.; Mary Donald, 6918 N. Belmont Lane, Milwaukee, WI 53217
- Necedah** (32); Petenwell Dam; W. D. Brown 225 W. Lakeside St., Madison, WI 53715 (former Adams count with center moved west)
- Nelson** (23); 1 mi. S Jct. Hwys I and D; Charles Kemper, Box 2, Chippewa Falls, WI 54729
- Newburg** (65); Jct. Hwy 33 and Lakefield Rd.; G. Andrew Larsen, % Riveredge Nature Center, Box 26, Newburg, WI 53060
- New Richmond** (18); 1½ mi. E of Boardman; Peter Tweet, 507 Laurel, Hudson, WI 54016
- Oconomowoc** (53); Hwy 67, 2 mi. N of Oconomowoc; Edward Peartree, 36516 Lisbon Rd., Oconomowoc, WI 53066
- Oshkosh** (38); Jct. Hwys 41 and 21; Mary Shepard, 404 E. Meadow St., Oshkosh, WI
- Oxbow** (6); Jct. Hwys 70 and EE; Maybelle Hardy, Rt. 1, Box 263, Park Falls, WI 54552
- Peshtigo** (15); Harmony Corners; Harold Lindberg, 311 Emery Ave., Peshtigo, WI 54157
- Plymouth** (41); Hwy C and Golf Course Rd.; Harold Koopman, 415 Caroline St., Plymouth, WI 53073 (Formerly Elkhart Lake, but center moved south to avoid conflict with new counts in Manitowoc Co.)
- Portage** (42); Silver Lake; W. D. Brown, 225 W. Lakeside St., Madison, WI 53715 (Count center should be Hwy 51, 2½ mi. S of Marquette Co. to avoid overlap of Poynette Count)
- Poynette** (44); Jct. Hwy 51 and CS; William Smith, 635 N. 2nd St., Platteville, WI 53818
- Racine** (68); 1 mi. SE of Franksville; Edward Prins, 1238 Indiana St., Racine, WI 53405
- Randolph** (43); midway between Randolph and Cambria; Charles Gilmore, 246 N. High St., Randolph, WI 53956
- Rhineland** (10); Jct. Stevens and Davenport Streets; Philip DeWalt, Rt. 3, Box 92, Rhineland, WI 54501
- Richland Center** (46); Jct. Hwys O and OO S of Richland Center; Robert Hirschy, University of Wisconsin Center, Richland Center, WI 53581
- Sauk City** (47); 1½ mi. SE of Witwen; N. R. Barger, 4333 Hillcrest Dr., Madison, WI 53705
- Sayner** (9); Ross L., 5 mi. SW of Sayner; Linda Thomas, West Plum Lake, Sayner, WI 54560
- Shawano** (16); Shawano; Larry Fenton, 1032 S. Washington St., Shawano, WI 54166
- Shiocton** (34); Jct. Hwys 54 and M; Daryl Tessen, 2 Pioneer Park Place, Elgin, IL 60120
- Solon Springs** (4); Jct. Hwys 53 and M; Bernard Klugow, D.N.R. Box 3600, Green Bay, WI 54303

Bald Eagle-Osprey Status Report U. S. Forest Service, Eastern Region—1974

The survey of Bald Eagle and Osprey nesting activity on Eastern Region National Forests in 1974 is summarized in Tables 1 and 2. Tables 3 and 4 show trends in nesting success of these species over eleven consecutive years.

Annual nesting surveys are usually accomplished with small aircraft and consist of two separate flights for both eagles and ospreys. The first flight is made during the incubation period to see if nests are occupied. In the second flight, near the end of the nesting period, the observer determines the number of young in previously occupied nests.

Eagle-Osprey nest surveys are a cooperative undertaking of several agencies with the Forest Service. These include National and local Audubon Societies, Ornithological Societies, State Departments of Natural Resources, Fish and Wildlife Service, and universities.

The nest success of the Bald Eagle population in the National Forests declined in all Forests except the Nicolet. The number of active nests held about the same in the Region, but there was a decrease in both the number of nests that produced young and the number of young produced. The Ottawa experienced the most alarming decline. **Only 41 percent of the active nests were successful, the poorest success in the history of the survey of this species on this Forest.**

Osprey success improved over last year. Increased nest findings or increased nesting occurred on the Nicolet and Superior with the result that 140 pairs were observed on their territories at the beginning of the season. Seventy-three of these successfully produced 118 young. All statistics were at or near the highest recorded during the ten years of the survey.

There were other events in the Eagle-Osprey program during the year. Another Eagle Survey Workshop was sponsored by the Fish and Wildlife Service in August. Coordination of survey flights and reporting responsibility seemed confused at times, but the 1974 survey as a whole turned out to be the most complete one to date for the seven National Forests in the Lake States.

A thesis entitled **"Interaction of a breeding pair of bald eagles with sub-adults at Sucker Lake, Michigan,"** (Ottawa National Forest) was submitted by Jim Mattsson. The study was carried out in 1972 and 1973 and relates to the recreation and fisheries management potential at Sucker Lake. The research provides background information for management decisions about whether to raise the level of this lake or not.

Research and study on eagle habitat and life history continue on the Chippewa National Forest. Thirty-seven young eagles were banded, bringing the total number of banded eagles to date to 188. Fourteen young eagles were color-marked and fifteen were radio-tagged in cooperative research projects with Dr. L. D. Frenzel and Dr. Thomas Dunstan.

Two cooperative agreements were implemented to conduct studies dealing with disturbance effects on reproductive success and post-fledging mortality on the Chippewa National Forest. Three eggs were taken from two nests for transplanting to Maine eagle nests in cooperation with the U. S. Fish and Wildlife Service. The project accounted for two nesting failures in the 1974 statistics for the Chippewa, but resulted in one eagle fledged in Maine this year.

The Hunt-Wesson "Save the Eagle" promotion, also, on the Chippewa National Forest, was successfully completed with 144 acres containing four eagle nests donated to the Forest Service. A cash donation of \$21,000 was also received from Hunt-Wesson which is being used to support cooperative studies. In October 1973, the "Children's Eagle Nesting Area" was formally dedicated by a ceremony at Cass Lake, Minnesota.

The Forest Service considers Bald Eagle populations to be endangered or threatened in Michigan National Forests and probably also those in Wisconsin. The status in Minnesota is not judged very secure in the light of increasing threats from human activities on the land. In view of this and also of the fact that the species is indistinguishable from the Southern Bald Eagle in the field, the Forest Service is suggesting that the Northern subspecies be listed for the Lake States as "threatened" under Public Law 93-205, the Endangered Species Act of 1973.

TABLE 1.
BALD EAGLE NESTING STATUS
U. S. FOREST SERVICE, EASTERN REGION

Forest and State	Verified Nests		Pair Nests Territories		Active Nests	Successful Young	
	1973	1974	Checked	Checked		Nests	Produced
Ottawa	66	60	50	35	27	11	18
Hiawatha	37	29	25	20	6	1	1
Huron-Manistee	22	22	22	14	10	4	6
Michigan	125	111	97	69	43	16	25
Chequamegon	16	16	16	13	10	2	5
Nicolet	27	32	32	22	19	12	18
Wisconsin	43	48	48	35	29	14	23
Superior	67	66	61	47	30	19	17
Chippewa	147	156	149	106	68	40	54
Minnesota	214	222	210	153	98	59	71
Region 9 Totals	382	381	355	257	170	89	119



TABLE 2.
OSPREY NESTING STATUS
U. S. FOREST SERVICE, EASTERN REGION

Forest and State	Verified Nests		Pair Nests Territories		Active Nests	Successful Nests	Young Produced
	1973	1974	Checked	Checked			
Ottawa	13	14	14	11	8	4	8
Hiawatha	19	16	20	15	10	6	13
Huron-Manistee	0	0	....	....	....	....	....
Michigan	32	30	34	26	18	10	21
Chequamegon	1	4	4	4	3	0	0
Nicolet	31	37	38	37	25	10	15
Wisconsin	32	41	42	41	28	10	15
Superior	38	42	49	49	27	18	23
Chippewa	124	139	83	83	67	35	59
Minnesota	162	181	132	132	94	53	82
Region 9 Totals	226	252	208	199	140	73	118

TABLE 3.
BALD EAGLE NESTING TRENDS
U. S. FOREST SERVICE, EASTERN REGION

Year	Verified Nests	Observed Nests	Active Nests		Successful Nests		Total	Young Per Successful Nest	Per Active Nest
			No.	%	No.	%			
1964	156	129	64	50	36	56	51	1.4	.80
1965	204	179	113	63	62	55	88	1.4	.78
1966	265	200	113	57	46	40	67	1.7	.59
1967	304	209	110	53	42	38	63	1.5	.57
1968	323	268	119	44	66	55	98	1.9	.82
1969	344	284	129	45	72	56	109	1.5	.85
1970	294	258	124	48	61	52	107	1.7	.86
1971	327	271	128	51	77	56	115	1.5	.83
1972	356	345	167	48	97	58	155	1.6	.93
1973	382	351	171	49	107	63	163	1.5	.95
1974	381	355	170	48	89	52	119	1.3	.70

TABLE 4.
OSPREY NESTING TRENDS
U. S. FOREST SERVICE, EASTERN REGION

Year	Verified Nests	Observed Nests	Active Nests		Successful Nests		Total	Young Per Successful Nest	Per Active Nest
			No.	%	No.	%			
1965	79	63	37	59	10	27	11	1.1	.30
1966	94	62	28	45	....	....	5	1.3	....
1967	137	70	43	61	12	28	23	1.9	.53
1968	152	113	73	65	21	29	27	1.3	.37
1969	183	142	72	51	28	39	55	2.0	.76
1970	157	118	84	71	42	50	74	1.8	.88
1971	140	100	66	66	34	52	55	1.6	.83
1972	205	170	111	65	59	53	97	1.6	.87
1973	226	181	127	70	21	38*	36	1.7	.65*
1974	252	208	140	67	73	52	118	1.6	.84

*Chippewa NF incomplete data excluded from calculations.



FIELD NOTES

By NANCY and HAL ROBERTS

The Summer Season

June 1 - July 31, 1974

After a mild spring, the summer season started off cool and rainy. Many migrants, notably warblers, lingered into the first days of June, awaiting favorable weather. The early rains improved the nesting success of waterfowl and marsh birds, including gallinules and rails.

July was largely hot and dry with some violent storms. A severe hailstorm struck the marsh area in Green Bay on July 2 and destroyed many nests of gulls, Redwings and other marsh birds. It is reported that Forster's Terns were dead on their nests, pounded almost literally into them. A dead or injured Redwing was by almost every cattail; one of the trees where Cormorants were nesting was blown down and even one dead Canada Goose was found. Little Gulls which may have been nesting in this area at the south end of Green Bay were not seen after the storm.

Shorebird migration was good with 400 or more in Madison on July 25 and at least 500 at the spillway of the Fox River in Kaukauna on July 21 and 31.

Two or more reporters observed the abundance of Great Crested Flycatchers, House Wrens, Short-billed Marsh Wrens and Robins. Low numbers were recorded for the following: Great Blue Heron, Ruffed Grouse, Whip-poor-will, Bluebird and Cedar Waxwing. More observers noted the scarcity of waxwings than any other species.

A good number of rarities was found during the season, namely the Great Black-backed Gull, Laughing Gull, Arctic Tern, Saw-whet Owl, Western Kingbird, Brewster's Warbler, Prairie Warbler and Hooded Warbler. With few exceptions, migration proceeded within the previously established dates.

Following are highlights of the summer season:

Common Loon: Found in most northern counties as far south as St. Croix county (Pete Tweet).

Red-necked Grebe: On July 28, Sam Robbins found two adults and three half-grown chicks on East Twin Lake, St. Croix county, where a pair has nested for the last several years. Four were found in St. Croix county on July 23 (Craig Faanes). Also present again at Rush Lake, Winnebago county, where eleven adults and three young were seen on July 1 (Philip Ashman) and 15 were found on July 5 (Rockne Knuth).

Double-crested Cormorant: Mid-summer reports came from the following counties: Burnett (Richard Palmer, Jim Evrard); Marathon at Mead Wildlife Refuge (Robbins, Steve Krings); Brown where Daryl Tessen found 50 all summer and six nests observed in July, also observed by Louise Erickson, Edwin Cleary and Brother Columban, Joel A. Trick; Dodge where two were in Horicon Marsh on July 19 (Thomas S. Sanford); Winnebago, with three at Rush Lake on June 1 (Knuth).

- Great (Common) Egret:** Few observations. Four were in Burnett county on July 16 (Evrard), St. Croix county (Tweet), Trempealeau county (Ruth Lender), and 240 in Horicon Marsh on July 17 (Sanford). The observation on July 30 in Rock county is unusual (Mr. and Mrs. John H. Brakefield).
- Cattle Egret:** The only report was of birds present on June 30 northeast of Rush Lake, Winnebago county (Dr. Neil A. Harriman, fide Bruce Parfitt).
- Yellow-crowned Night Heron:** Found only in La Crosse on June 1 (Tessen) and by F. Z. Leshner who found one adult on July 11 and three adults and one young on July 26 and reported lower than normal numbers.
- Least Bittern:** Observations came from Bayfield, Burnett, Barron, Price, Marinette, St. Croix, Marathon, Brown, Winnebago and Dodge counties.
- Mute Swan:** One was observed at Middleton, Dane county, from June 16 to June 18. It may have been the bird that wintered at Mud Lake, Columbia county (William Hilsenhoff).
- Whistling Swan:** Late migrants were the one at Rush Lake on June 1 (Knuth), and the two in Chippewa county on June 13 (Dr. Charles Kemper and Robbins). More unusual are the one found July 9 at Goose Pond (Philip Ashman) and one at Onalaska on July 28 (Leshner).
- Canada Goose:** Many birds observed in many locations statewide. Largest numbers reported were the 700 in Necedah Wildlife Refuge on July 31 (Refuge Manager), 188 on July 26 at Crex Meadows in Burnett county (Evrard) and 120 at Green Bay on June 20 (Cleary and Columban).
- Snow Goose:** From one to three transients lingered with three captives in Racine county (Erickson).
- Gadwall:** Twelve were present in Burnett county on June 12 (Evrard), nested and were numerous in Green Bay (Erickson, Tessen, Cleary and Columban, Trick). Four were located in Winnebago county on July 28 (Clark Schultz) and 190 were counted in Horicon on June 11 (Sanford).
- Green-winged Teal:** In Kenosha county on June 10 (Erickson), two in Barron county on June 22 (Faanes). Found during the period in Marinette (Lindberg), Dane (Hilsenhoff) and Brown (Tessen) counties. Largest number was 310 in Horicon on July 26 (Sanford). Other late July observations were in Burnett (Evrard); Waukesha (Tom and Carol Bintz) and Whitnall Park, Milwaukee county (Elmer Strehlow).
- Pintail:** In Horicon Marsh, 210 were present on July 10 (Sanford). Eight were found in St. Croix county on July 23 (Faanes), in Oconto county on July 15 (Tessen), Brown county (Cleary and Columban, Tessen), Dane county (Hilsenhoff), Waukesha county (Bintz) and Racine and Kenosha counties (Erickson).
- American Wigeon:** One was present in Burnett county on June 18, many reports from Brown county through the period, one on June 21 at Mead Wildlife Refuge, Marathon county (Robbins), one in Winnebago county on July 27 (Schultz) 170 in Horicon Marsh on June 11 (Sanford) and one in Milwaukee on June 24 (Elmer and Lorna Basten).
- Shoveler:** Found in Barron county (Faanes, Goff), Chippewa county where two were present on June 3 (Robbins), in Brown county in June (Robbins, Tessen), 270 in Horicon on June 27 (Sanford), Dane county (Hilsenhoff, Robbins), Milwaukee county where two were present on July 30 (Strehlow) and in June in Racine and Kenosha (Erickson).
- Redhead:** On July 17, 1750 were recorded in Horicon Marsh (Sanford). A pair was present in Oneida county where the male was killed before nesting took place (Louise Engberg). In Brown county, at least five nesting pairs were noted (Tessen, Trick) and 27 young were counted on July 30 (Trick). One was located in Milwaukee from June 4 to 8 (Basten).
- Ring-necked Duck:** Found in the following counties: Burnett (Evrard, Palmer), Oneida (Phill Vanderschaegen), Polk (Faanes), Barron (Goff), 10 at Horicon (Sanford), 20 at Necedah (Refuge Manager), Wood (Palmer) and Brown (Tessen).
- Great Scaup:** Two reports; in Barron county (Goff) and six in Milwaukee on July 12 (Basten).
- Lesser Scaup:** Observed in Barron county by Alta Goff and one on June 26 (Faanes). Two were present in St. Croix county on June 1 (Robbins); one in Brown county

- on June 12 (Cleary and Columban), six there on June 8 and two on July 15 (Tessen), one adult male in Brown county on July 11 (Trick). Ten were noted in Horicon on July 2 only (Sanford), one in Waukesha on June 1 (J. Bielefeldt) and July 20 (Basten). Four pairs were noted in Milwaukee from June 8 to 10 (Basten).
- Bufflehead:** A female was seen twice on July 15 for a total of fifteen minutes at Oconto Marsh (Tessen).
- Ruddy Duck:** Found in St. Croix county by three observers; (Tweet), thirty on July 4 (Faanes), three on July 28 (Robbins). In Brown county, four to six broods were found by Tessen, nine broods and 42 young on July 31 (Trick). One was found in Winnebago county on June 15 (Schultz) and two on July 5 (Knuth). 1040 were in Horicon on July 17 (Sanford). Noted also in Columbia county (Ashman), Dane county (Hilsenhoff) and Waukesha county (Bielefeldt).
- Hooded Merganser:** Found in the northern counties of Burnett (Evrard), Washburn (Palmer), Oneida (Vanderschaegen), Barron (Faanes) and Oconto (John Woodcock). Farthest south were the 75 in Necedah Wildlife Refuge (Refuge Manager) and the one in Outagamie county on July 14 (Tessen).
- Common Merganser:** Only one report; Washburn county between July 14 and 26 (Palmer).
- Red-breasted Merganser:** One observation; in Ozaukee county on June 2 (Bintz).
- Turkey Vulture:** Farthest north were those in Oneida county (Vanderschaegen, Tessen).
- Goshawk:** Two were found in Barron county on June 30 (Faanes) and in Marinette county (Lindberg).
- Sharp-shinned Hawk:** Three reports; one in Douglas county on June 26 (Robbins), Barron county (Goff), one in Oconto county on June 18 (Tessen).
- Cooper's Hawk:** One was noted in St. Croix county on July 21 (Faanes), in Barron county (Goff), in Marinette county (Lindberg) and one on June 18 in Oconto county (Tessen).
- Bald Eagle:** One was observed in Bayfield county on July 19 (Albert Roy, Jr.), two adults in Burnett county on June 11 (Evrard), in Washburn county (Palmer), Barron county (Goff), two adults and one young in Oneida county (Engberg), nesting noted in Oconto county (Woodcock), one in Necedah (Refuge Manager).
- Osprey:** Reports came from Burnett county where a female and three young were seen on June 27 (Evrard), Washburn county (Palmer), Oneida county (Vanderschaegen, Engberg), Barron county (Faanes, Goff), Marinette county (Lindberg), two in St. Croix county on July 4 (Faanes) and two in Necedah (Refuge Manager).
- Pigeon Hawk:** Tessen had the good fortune to spot two during the period; one at Wautoma on June 18 and one at Eagle River on July 27.
- Spruce Grouse:** Located in Oneida county (Vanderschaegen).
- Sharp-tailed Grouse:** One was found in Burnett county on June 13 (Evrard) in Marinette county (Lindberg) and one in Sawyer county on June 20 (Robbins).
- Turkey:** The Refuge Manager reports that 100 were present in the Necedah Wildlife Refuge on June 1.
- Sandhill Crane:** On June 7, a total of five were heard in Jackson, Monroe and Juneau counties (Robbins). Found in Juneau county on July 14 (Leshner), six north of Hortonville, Outagamie county, on July 17, five in Horicon on July 22 (Sanford), 16 in Burnett county on July 26 (Evrard) and 150 in Necedah on July 31 (Refuge Manager).
- Semipalmated Plover:** Brown county produced the latest departure and the earliest fall arrival; June 8 and July 7 respectively (Tessen).
- Golden Plover:** One was observed in Onalaska, La Crosse county, on July 28 (Leshner).
- Black-bellied Plover:** 14 were seen in Racine on June 3, departed June 3 (Erickson).
- Ruddy Turnstone:** Found in Brown county on June 3 (Cleary and Columban) and June 8 (Tessen); four on June 2 in Winnebago county and again on June 28 (Schultz) and 33 in Racine on June 2 (Erickson).
- Common Snipe:** Found in most northern counties as expected, and also 100 in Horicon Marsh on June 1 (Sanford), one in Dane county July 25 (Ashman) and in Rock (Mrs. Joseph Mahlum) and Racine (Erickson) counties during the period.
- Solitary Sandpiper:** Last spring departure was June 2, Milwaukee (Basten). Earliest fall arrivals were the two in Whitnall Park, Milwaukee, on June 11 (Strehlow).

- Greater Yellowlegs:** Earliest fall returnee was one in Outagamie county on July 5 (Tessen).
- Lesser Yellowlegs:** Early fall arrivals were five in Outagamie county on July 5 (Tessen). Largest count was the 530 in Horicon on July 17 (Sanford) and 290 in Dane county on July 25 (Ashman).
- Red Knot:** One was observed in Racine on June 2 (Erickson).
- Pectoral Sandpiper:** Last spring date was June 1, Chippewa county (Robbins). Migrants were returning by July 9 in Dane county where 56 were counted on July 25 (Ashman).
- White-rumped Sandpiper:** Latest spring birds were the two in Brown county on June 8 (Tessen); earliest fall arrival was one in Outagamie county on July 31 (Tessen).
- Baird's Sandpiper:** Last spring migrant was one in Brown county on June 8 (Tessen). Earliest fall bird was one in Outagamie county on July 21 (Tessen).
- Least Sandpiper:** Earliest fall migrants were the four in Outagamie county on July 5 (Tessen) and the 20 or more in Brown county on July 7 (Tessen).
- Dunlin:** Last spring departures were 30 in Brown county on June 8 (Tessen). There were no fall arrivals during our period.
- Short-billed Dowitcher:** A spring migrant lingered in Ozaukee county until June 1, one day later than the previous record (Basten). Early fall arrivals were one on July 14 in Outagamie county and 31 in Brown county same date (Tessen).
- Long-billed Dowitcher:** One was spotted in Brown county on July 14 (Tessen) and in Waukesha county on July 20 (Bintz).
- Dowitcher (sp.):** 30 were located in Brown county on July 12 (Tessen), 67 in Dane county on July 25 (Ashman), 15 in Horicon July 25 (Tessen).
- Stilt Sandpiper:** Earliest fall migrants were six in Brown county on July 14 (Tessen). There were eight in Outagamie county on July 21 (Tessen), 50 in Horicon on July 25 (Tessen) and one in Onalaska, La Crosse county, on July 28 (Leshner).
- Semipalmated Sandpiper:** Last spring migrants were in Chippewa county on June 13 (Robbins); early fall birds arrived in Dane county on July 11 (Ashman).
- Western Sandpiper:** There were four sightings of this rare transient visitant; in Chippewa county on June 1 (Robbins), Outagamie county on July 21 (Tessen) and in Brown county on June (Tessen) and July 24 (Erickson).
- Marbled Godwit:** The only report is of one in Brown county on July 24 (Erickson).
- Sanderling:** At least twelve spring migrants lingered in Winnebago county until June 2 (Schultz) and nine in Racine same date (Erickson). Early fall birds arrived in Brown county on July 7 (Tessen).
- Wilson's Phalarope:** One bird in Burnett county on June 26 may have been a summer resident (Evrard), as may have been the two in Dane county on July 12 (Ashman). A probable fall arrival was the one found July 23 in Chippewa county (Robbins).
- Great Black-backed Gull:** On June 8, a immature just starting into full adult plumage was found flying with Herring Gulls in Brown county (Tessen). Just five days later, June 13, an individual of similar plumage was observed in Racine county (Erickson). There were only 12 known sight records for this species from 1881 to 1956.
- Ring-billed Gull:** In addition to the expected eastern locations, five birds were found at Onalaska, La Crosse county, on July 28 (Leshner), in Oneida county at the end of July (Engberg) and in Douglas county (Palmer).
- Bonaparte's Gull:** Found along Lake Michigan and in Bayfield county (Albert Roy, Jr.).
- Laughing Gull:** On July 31, one was observed in flight over Green Bay (Tessen). This is the first sighting since the observation in 1971 by Tessen, also at Green Bay.
- Little Gull:** One in Green Bay on June 8 (Tessen) were it has been found for two years previously.
- Forster's Tern:** On June 11, 100 were found in Horicon Marsh (Sanford); 43 were in Brown county on July 25 (Erickson).
- Common Tern:** Out of the usual east and north locations were the birds found in St. Croix county (Tweet) and six in Onalaska on July 28 (Leshner).
- Caspian Tern:** Again away from the north and east locations was the one in Onalaska on July 28 (Leshner).

- Arctic Tern:** On June 22, the sighting of an individual of this species together with 36 Terns of three species in Racine county is described by Louise Erickson. The observation must be considered hypothetical since it is not substantiated by a specimen, photographs or additional observations. However, this in no way detracts from interest in this remarkable observation. Kumlein and Hollister record two early nesting observations, in Green Bay and Lake Koshkonong. In his revision of 1948, Schorger says the Arctic Tern must be deleted from the state's list for lack of a specimen.
- Screech Owl:** Only three observations compared with eight last year; in St. Croix county (Tweet), Dane county (Ashman, Hilsenhoff).
- Barred Owl:** A slightly increased number of observations; Bayfield county (Roy), Oneida (Vanderschaegen, Engberg), Barron (Faanes, Goff), St. Croix (Faanes, Tweet), Washburn (Palmer), Marinette (Lindberg), Buffalo (Tom Roskos) and two young in Waushara county (Irma Chipman).
- Long-eared Owl:** Found in Barron county (Faanes) and one in Oconto county on June 18 (Tessen).
- Short-eared Owl:** One was present in Burnett county on July 1, and the species was also observed in St. Croix county (Tweet).
- Saw-whet Owl:** One was heard in Oneida county on July 31 (Vanderschaegen).
- Western Kingbird:** One careful observation in Calumet county on June 1 (Parfitt).
- Yellow-bellied Flycatcher:** Late spring migrants were the four in Dane county on June 1 (Hilsenhoff), one in Milwaukee on June 2 (Basten), and one in Racine and in Kenosha on June 1 (Erickson). The two found in Washburn county on June 30 were possible summer residents (Faanes).
- Acadian Flycatcher:** Found in four southern counties; in Sauk county on June 9 when it was heard singing in four locations (Bill Foster and Robbins) and on June 26 (Hilsenhoff); five singing in Wyalusing Park, Grant county, on June 22 (Ashman); Waukesha county from June 14 to 26 (Bielefeldt) and one in Racine county on July 13 (Erickson).
- Trail's Flycatcher:** Reports of the Alder Flycatcher are limited to four; Marinette county (Lindberg), Brown county on June 1 (Cleary and Columban), Winnebago (Schultz) and Waukesha county (Bielefeldt). The Willow (Fitz-bew) was apparently much more numerous with many observations throughout the state.
- Olive-sided Flycatcher:** Late migrants may have been the birds found in Whitnall Park, Milwaukee, on June 1 (Don Hanbury), one in Trempealeau county same date (Tessen), one in Dunn county also June 1 (Robbins), one in Sawyer county June 8 (Krings) and two seen in Winnebago county from June 8 to 15 (Schultz). More likely to be summer residents were the four in Polk county on June 15 (Faanes).
- Boreal Chickadee:** Two were spotted in Ashland county on June 24 (Robbins) and were also found in Oneida county by two observers; on July 27 (Tessen) and by (Vanderschaegen).
- Tufted Titmouse:** Only one was reported; one in Juneau county on June 7 (Robbins).
- Red-breasted Nuthatch:** The farthest south sighting was in Jackson county where it was found at three locations on June 14 (Robbins). Others were found in Bayfield, Oneida, Oconto and Marinette counties.
- Brown Creeper:** Found for the first time in summer in Appleton where one was located on July 21 on the north side of the city (Tessen). Other observations were made in Douglas, Forest, Burnett and Sawyer counties (Robbins), Marinette (Lindberg) and Oconto (Woodcock) counties.
- Winter Wren:** Found in the usual northern locations; the three singing in Wyalusing Park, Grant county, on June 22 are surprising (Ashman). Also far south was the one found singing in Sauk county on June 9 (Foster and Robbins).
- Carolina Wren:** Two observations; one in Pierce county on June 23 (Faanes) and one in Racine on July 15 (Richard Garber).
- Curve-billed Thrasher:** The famous bird at Buffalo City survived the winter and continues nesting activities, laying infertile eggs (Maier).
- Swainson's Thrush:** Last spring migrants were picked out on June 1 in Winnebago county (Schultz), Ozaukee county (Bintz) and Milwaukee (Basten). Possible summer residents were those found in Barron county (Goff) and the one in Langlade county on July 27 (Tessen).

- Gray-cheeked Thrush:** The observation in Barron county is likely a late spring migrant (Goff).
- Blue-gray Gnatcatcher:** Far from the usual south and east locations were the ten plus found in La Crosse county on June 1 (Tessen).
- Ruby-crowned Kinglet:** In Outagamie county, a pair nested successfully in a cemetery at the north end of Appleton. One young was raised with it being fed by both parents during July. The observation which extended from June 8 to July 25, constitutes the first nesting record in this county (Tessen). Other finds were in Bayfield county (Roy), on June 22 in Florence county (Hilsenhoff), one on June 19 in Oneida county (Robbins) and one heard singing in Oconto county (Woodcock).
- Loggerhead Shrike:** Three observations in Sauk county; on June 1 (Tessen), June 9 (Foster and Robbins) and June 23 (Ashman). One also found on June 11 near Arena in Iowa county (Robbins).
- Bell's Vireo:** One was found east of Millston, Jackson county, on June 7 in the location where one was found in 1973 (Robbins); four present in Trempealeau county on June 1 (Tessen) and one in Vernon county on June 1 (Tessen).
- Prothonotary Warbler:** Located in Outagamie county on July 17 (Tessen). Have been reported in this area for two years previously. In Sauk county, three singing males were discovered on June 9 and one on July 21 (Ashman). Two singing males were present in Wyalusing on June 22 (Ashman).
- Blue-winged Warbler:** Present in Manitowoc county during the period (Marjorie Albrecht), and Waukesha county (Bielefeldt). Found in Vernon county on June 1 (Tessen) and a singing male in Sauk county on June 9 (Foster and Robbins).
- Brewster's Warbler:** A hybrid warbler was present in Waukesha county on June 12 (Bielefeldt). See *By the Wayside*.
- Tennessee Warbler:** Spring birds lingered in Sauk county until June 9 (Foster and Robbins); fall migrants returned to St. Croix county on July 28 and Chippewa county on July 26 (Robbins).
- Orange-crowned Warbler:** One individual was carefully observed in Winnebago county on June 18 (Schultz). There has been no other summer record for the past ten years.
- Nashville Warbler:** A spring migrant lingered in Racine county until June 2 (Erickson). Other observations were in northern and central counties, as expected.
- Northern Parula Warbler:** In addition to the expected northern reports, one from Kenosha county of two seen and heard on June 18 is unusual (Erickson).
- Cape May Warbler:** Another late spring bird in Racine county on June 1 (Erickson). Five were found on June 26 in Solon Springs, Douglas county, where they have been found since 1969 (Robbins).
- Black-throated Blue Warbler:** Summer birds were found in Bayfield county (Roy), on June 19 in Forest county and June 24 in Ashland county (Robbins), one on July 27 in Oneida county (Tessen) and four observations in Oconto county, all singing males during the period from June 8 to July 15 (Woodcock).
- Cerulean Warbler:** Farthest from the usual south and central locations were those found in Washburn county (Palmer) and Oneida county (Engberg).
- Bay-breasted Warbler:** Spring migrants lingered until June 1 and 2 in Milwaukee (Basten) and June 1 in Racine and Kenosha (Erickson).
- Prairie Warbler:** One was observed in Waukesha county on June 12 (Bielefeldt). There have been May sightings of this species nearly every year, but very few during the summer season which makes this date especially interesting.
- Palm Warbler:** Two were present in Douglas county on June 26 (Robbins) and one in Oneida county on July 27 (Tessen). The observation in Winnebago county (Schultz) would appear to be a late spring straggler.
- Northern Waterthrush:** Found in northern counties of Florence (Hanbury), Washburn (Palmer), Barron (Faanes) and five observations to June 22 in Oconto county (Woodcock).
- Louisiana Waterthrush:** The four counties reporting observations are more than usual; one in Juneau county on June 7 (Robbins), in Sauk county on June 9 (Foster and Robbins) and June 26 (Hilsenhoff); one in Trempealeau county on June 1 (Tessen).

- Kentucky Warbler:** The one in Trempealeau county on June 1 (Tessen) is a new location for this bird. A total of eight were located in Wyalusing on June 22 (Ashman).
- Connecticut Warbler:** On June 25, 30 singing males were discovered in western Bayfield county in a jack pine area similar to the Douglas county area where 41 were recorded in 1973 (Robbins). There were two sightings in Oconto county in June; two individuals on June 2 (Woodcock) and one on June 18 (Tessen). A pair was discovered in Menominee county on July 27 (Tessen).
- Hooded Warbler:** This most unusual observation from Washburn county on July 18, (Palmer) is one of less than a dozen summer records for the state. It was present near the Audubon Workshop in Sarona for a week or longer and was seen by many observers. The song was recorded on tape.
- Mourning Warbler:** Found in northern counties as expected. Late spring migrants were the 14 in Kenosha on June 1, those in Racine from June 2 to June 11 (Erickson) and one in Waukesha county on June 11 (Bielefeldt). Interesting are the sightings in Sauk county on June 23 (Ashman) and June 26 (Hilsenhoff) where it has been found in mid-summer a number of times since 1968.
- Wilson's Warbler:** Late migrants were present in Milwaukee on June 1 and 2 (Basten) and to June 2 in Racine (Erickson).
- Yellow-headed Blackbird:** Reported from nearly all of the usual locations with no new areas observed.
- Orchard Oriole:** One present in her yard from June 14 to July 1, Buffalo county (Maier); at least six in Trempealeau county on June 1 (Tessen); found in La Crosse county on June 18 (Tessen) and July 2 (Leshner); three males in Waukesha county during June (Bielefeldt).
- Cardinal:** Robbins discovered one in western Bayfield county on June 25 and one in southern Douglas county on June 26. He reports both were far from any civilization.
- Dickcissel:** Populations appeared normal with observations as far north as Barron and Washburn counties.
- Evening Grosbeak:** Observed in the following counties; Douglas (Robbins), Forest (Hilsenhoff), Florence (Robbins, Hilsenhoff), Oneida (Vanderschaegen), Price (Maybelle Hardy) and Oconto (Woodcock).
- Purple Finch:** Farthest south was the one in Outagamie county on June 18 (Tessen).
- Pine Siskin:** Two migrants lingered in Racine until June 24 (Erickson). Others were noted in Bayfield county (Robbins), Sawyer (Robbins), Oneida (Vanderschaegen, Robbins), Barron (Goff), and Buffalo (Maier).
- Red Crossbill:** A number of reports but not the large flocks of 1973. The largest number was the five seen in Buffalo county from June 6 to 13 (Roskos), and the 13 found in Sawyer county on June 12 (Tessen). Single individuals were seen in Oneida county on July 27 (Tessen), Jackson county on June 14 (Robbins). Two were seen in Buffalo county on June 1 (Maier) and in Juneau county on June 7 (Robbins).
- White-winged Crossbill:** Present in Price county from June 1 to 6 (Hardy); one seen and heard calling in Juneau county on June 7 (Robbins) and four seen flying and heard in Sauk county on June (Foster and Robbins).
- Le Conte's Sparrow:** Two were found in Bayfield county on June 25, two in Sawyer county on June 20 (Robbins), one in St. Croix county on July 11 (Faanes), Marinette county (Lindberg) and three in Chippewa county on June 12 (Robbins).
- Lark Sparrow:** An observation in St. Croix county (Tweet); two in Sauk county, one on June 1 (Tessen) and one on June 9 (Foster and Robbins); one in Oconto county on June 18 (Tessen).
- White-throated Sparrow:** Those observed in Chippewa county (Robbins) are the farthest south.
- Lincoln's Sparrow:** Two were present in Douglas county on June 26 and two in Forest county on June 19 (Robbins).
- Snow Bunting:** The four found on July 24 and one on July 28 in Brown county are the first summer records in at least ten years (Erickson).

OBSERVERS

Marjorie Albrecht, Philip Ashman, Elmer and Lorna Basten, J. Bielefeldt, Tom and Carol Bintz, Mr. and Mrs. John H. Brakefield, Irma Chipman, Edwin Cleary and Brother Columban, Louise Engberg, Louise Erickson, Jim Evrard, Craig Faanes, Bill Foster, Richard Garber, Alta Goff, Don Hanbury, Maybelle Hardy, Mrs. Francis Harmer, William Hilsenhoff, Rockne Knuth, Steve Krings, Ruth Lender, Fred Z. Leshner, Harold Lindberg, Mrs. Joseph Mahlum, Mrs. Lorena Maier, Richard Palmer, Bruce Parfitt, Necedah Wildlife Refuge Manager, Sam Robbins, Tom Roskos, Albert Roy, Jr., Thomas S. Sanford, Clark Schultz, Elmer Strehlow, Daryl Tessen, Joel A. Trick, Pete Tweet, Phill Vanderchaegen, John Walker, Melvin Wierzicki, John Woodcock.

By the Wayside...

Pine Warbler on Durand Christmas Count—"Two miles southwest of Durand, just before the land slopes down to the west bank of the Chipewewa River, the land is flat, with an occasional farm house and extensive plantings of pines. Around 2:30 p.m. we stopped near a farm house and squeaked a flock of House Sparrows into a deciduous tree in front of the house. With them was a smaller bird that appeared at first to be a winter-plumaged Goldfinch; yellow in front with vivid white wing-bars. Yet it didn't look right. The yellow on the upper breast was too bright, and while it covered the throat and upper breast, it did not extend over the face, except for a faint stripe over the eye. With suspicions of a Pine Warbler aroused, I checked the back and the bill. The back was olive-green and—as far as I could tell with 10X binoculars at 100 feet—with no sign of streaking. The bill was unmistakably warbler-like: thin and medium-long. Soon the bird flew across the road, and at a distance of 50 feet I detected the jerky flight pattern characteristics of warblers, and caught a glimpse of small white spots at the tip of the tail. It landed in a small pine where Kathy Hillery and Chris Hick were able to double-check the field markings. This was my first sighting of a Pine Warbler in winter, and it will make December 14, 1974 a memorable day."—Sam Robbins, Cadott

Broad-winged Hawk on Madison Christmas Count—"Visibility was excellent at 2:00 p.m., and as we approached the edge of the fallow field, the Broad-winged Hawk swooped down within 20 feet of us. We had a very good look at size, dark primary tips on white underwings, and broad black and white striping on the tail. The breast appeared light. This short, chunky *Buteo* could be nothing else but a broad-wing, strange as it may seem! The bird flew over us from a cut-over oak-hickory wood patch to another small woodlot downhill from its point of departure. We were able to view it perched inside the woodlot on an oak snag. (There were broad-wings in this area east of Dunn's Marsh all fall)"—Rosemary and Walter Fleming, Madison

Great Gray Owl on Brule Christmas Count—"On the day of the count at about 5:45 a.m., I was located on the east side of Big Lake which is a part of the Brule River. I had already heard the calls of the Great Horned and Barred Owls and then I heard a single loud hoot. This call I have heard several times in the last fourteen years in Douglas and Bay-field counties and I had been told by Dr. Richard Bernard that the call might be that of the Great Horned Owl. The single call was made several times before I left that area at about 7:30 a.m. I came back about 9:45 a.m. and while I walked down the trail from Highway 27 to the Brule River the big Owl was sitting about twelve feet above the snow covered ground. I used my 7 X 50 binoculars to observe the bird, but I really didn't have to because I got within twenty feet of the owl. I have seen the Great Gray Owl alive twice before, both times in Wisconsin. I also was given a dead specimen of this species, which was picked up by Forest Ranger George Gillette about eight years ago. Right in front of me the owl gave a single 'hoot'—very loud—which I suppose a person could interpret as a 'who.'"—Bernard F. Klugow, Green Bay

Black-legged Kittiwake on Madison Christmas Count—"A gull between size of Ring-billed (also seen that day) and Bonaparte's Gulls, flew over us 5 times following the shoreline on Lake Mendota, 80-180 feet away from us. It had a black bill and legs, 2 black lines across back of head and neck, forked tail with black band at end (narrow and cleanly marked), with rest of tail white. The wings had a dark band along outer fore edge and a less dark band on inner half of wing. These marks were on top; from below the dark wing ends showed, but the rest of the underwings and all the breast and belly were white."—Jim Harris, Dave James, and Susan Stackler, Madison (Editor's Note—This bird was seen by Bill Foster the day before the count when it flew by his window in a snowstorm. He was "90% sure he had glimpsed an immature kittiwake", and observers assigned to Lake Mendota on the Christmas Count were alerted.)

Brewster's Warbler in Waukesha county—A hybrid warbler of the Brewster's type sang in the brushy margin between a fallow field and a tamarack stand, Township of Ottawa, Waukesha county, on June 12. It was taken for a Golden-wing by voice but two 30 to 50 foot views through 7x50 binoculars disclosed the yellow cap of the Golden-wing combined with the black eye line of the Blue-wing and pure white underparts, including the throat. Broad yellow wing bars were also noted. I have seen Brewster's twice previously and am very familiar with the parent species, both of which summer in this portion of the Kettle Moraine State Forest.—J. Bielefeldt, 40 River View Lane, Oconomowoc



Spring Waterfowl Utilization of Western Wisconsin Wetlands

By STEPHEN V. GODDARD

Biology Department, University of Wisconsin, River Falls

Abstract: A four year study on the use of western Wisconsin by waterfowl during their spring migrations was carried out from 1968 through 1971. Data were collected three times a week on the species, number, and sex of the birds using the 17 study ponds. During the study, 77,892 waterfowl representing 24 species were observed. Six species made up 85.7 percent of the total. These were scaup (24.6 percent), coot (19.3 percent), ring-necked duck (14.8 percent), blue-winged teal (14.4 percent), mallard (8.0 percent), and green-winged teal (4.6 percent). Four ponds had 68 percent of the total use. Chi square analysis indicated a very significant dependency between the pond and the total waterfowl use or use by species. Generally, larger ponds were used by larger numbers of birds, whereas smaller ponds had the greatest use/acre. Two of the ponds ranked extremely high in both categories and were the most important wetlands areas. As the Chi square analysis indicated, all six major species exhibited definite habitat preferences. Coots were the most selective species, followed by mallards, green-winged teal, scaup, ringnecks and blue-winged teal. The breeding population was relatively stable the first three years, but increased the last year due to the greater number of breeding coots.

Waterfowl populations, representing an important wildlife resource, have been declining at an alarming rate in recent years. The continental waterfowl population has dropped considerably since the late 1950's. Breeding indices in 1967 for the six most abundant species averaged 35 percent below the average population indices recorded for the period 1956 to 1962 (Martinson, 1967). Although they have improved somewhat lately, there is still cause for alarm (Posphala and Anderson, 1972). This decline has caused concern in many areas, and numerous individuals and organizations have suggested that closed seasons may be the solution. This would result in a reduction in funds for waterfowl research and development since most of this money comes directly from taxes on hunting and fishing equipment. In addition, it would cause a definite decline in the interest of many private and public groups. A closed season could thus result in inefficient utilization of an economically and esthetically valuable wildlife resource.

The population decline has been attributed to overharvesting, poor breeding conditions (drought) and the tremendous rate at which waterfowl habitat has been destroyed or removed from production by drainage, pollution, or various agricultural practices. The importance of waterfowl nesting habitat has been pointed out by many authors. Beshars (1962) stated that the most important limiting factor in maintaining and increasing the continental waterfowl population has been the destruction of breeding habitat. Shannon (1965) pointed out the problem of dwindling waterfowl habitat in California. In 1956, J. Clark Salyer stated:

Waterfowl habitat in decreasing 100 times faster than we can replace it. Agricultural drainage has taken potholes at the rate of 50,000 a year in the prime waterfowl nesting territory in the United States.

Shaeffer (1957) reported that drainage subsidies have resulted in the

effective obliteration of over 1,000,000 acres of nationally important waterfowl breeding habitat in North and South Dakota and Minnesota.

The challenges are with us to curtail this loss and to obtain maximum utilization of the remaining habitat. It is up to us to find the means before the situation passes beyond recall. It has been estimated that a minimum of 22,000,000 acres of good quality wetlands are necessary in the United States alone to maintain harvestable waterfowl populations in the future (Smith, Robert I., 1963 personal communication).

That waterfowl use of areas can be greatly increased has been demonstrated in Wisconsin by the success at the Horicon Marsh in southeastern Wisconsin. The goose population increased from 12,000 to 100,000 birds from 1949 to 1961 (Hunt, Bell, and Jahn, 1962). The Washita National Wildlife Refuge in western Oklahoma is another excellent example. The duck population increased from 5,000 in 1961, its first year of operation, to 90,000 in 1965 (Washita National Wildlife Refuge, 1961 and 1966).

Before any attempt can be made to increase the use of an area, the actual level of utilization must be determined. With this as background, a study was conducted to ascertain:

1. if there was a significant difference in the use of various wetlands by all species of waterfowl;
2. if there was a significant difference in the use of various study ponds by species; and
3. the relative importance of the various study ponds.

STUDY AREA

The 17 wetland areas are all located in the south central section of St. Croix County in western Wisconsin (Figure 1). The areas ranged in size from 2.8 to 106 acres and in average depth from 9 to 60 inches. Some ponds dried up the first of June. The shorelines of many ponds were heavily grazed and very little vegetation was present. In other cases, there was a good growth of aquatics and grasses around the border. The major submergent plants were pond weeds (*Potamogeton* sp.), duckweeds (*Lemna* sp., *Najas*, sp.), and coontail (*Ceratophyllum* sp.) and the major emergent plant species were river bulrush (*Scripus fluviatilis*), poundstem bulrush (*S. americanus*), cattails (*Typha latifolia*), duck potato (*Sagittaria graminea*), and wapato (*Sagittaria latifolia*). Examination of recent aerial photographs showed the ponds varied in the amount of emergent vegetation coverage from 1.0 to 47 percent.

METHOD

Initially, 28 ponds were selected by use of maps, aerial photos, and a road survey of the area to obtain study sites representative of a wide range of ecological situations. Later the number was dropped to 17 because many ponds dried up during migration. Spring census work was initiated as soon as any of the ponds was partially clear of ice. The initiation dates were 25 March 1968, 8 April 1969, 4 April 1970, and 29 March 1971, and the termination day 3 June.. All ponds were censused

three times a week and direct counts were made using a 30X spotting scope. Species, sex, number, and pertinent weather information were recorded on a data sheet for each pond. Daily census data were recorded on larger summary sheets for later analysis. The Chi square technique (Steel and Torrie, 1960) was used to see if a dependency existed between the total waterfowl use or species use of the various study ponds.

RESULTS

Waterfowl utilization: During the four years of the study, 77,892 waterfowl comprising 24 species were observed (Table 1). The largest population (25,212) was recorded in 1968 and the smallest (16,148) in 1969. During the last three years, numbers were relatively stable. Six major species made up 85.7 percent of the waterfowl. These important species were scaup (24.6 percent), coot (19.3 percent), ringnecks (14.8 percent), blue-winged teal (14.4 percent), mallard (8.0 percent) and green-winged teal (4.6 percent). However, green-wings declined rapidly in importance after the first year.

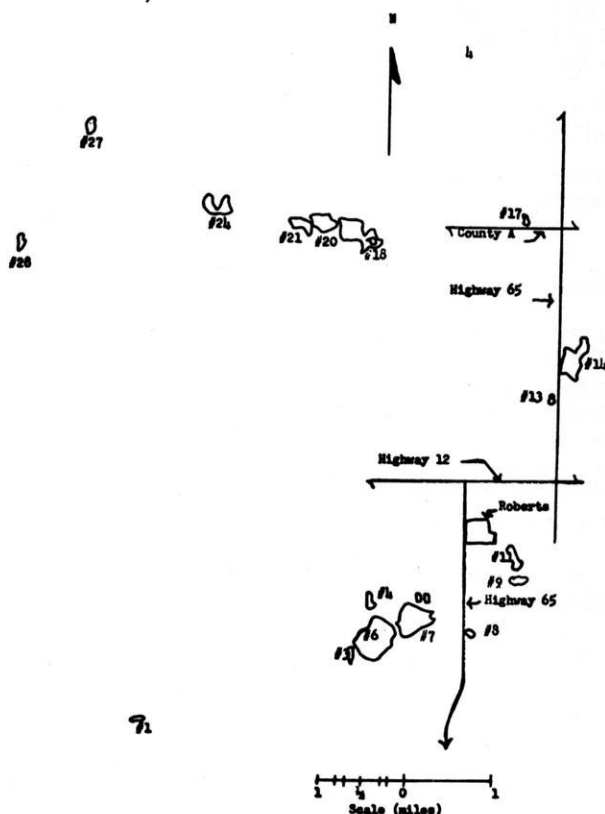


FIGURE 1.

SKETCH SHOWING LOCATIONS OF THE VARIOUS STUDY PONDS
IN THE WESTERN WISCONSIN STUDY AREA

Table 1. Number and percentage of total waterfowl observed by species during Spring 1968-1971.

Species	Number of Waterfowl Observed					Percent of Waterfowl				
	1968	1969	1970	1971	Total	1968	1969	1970	1971	Percent of Total
Scaup	6,488	4,595	4,848	3,227	19,158	25.7	28.5	25.6	18.3	24.6
Coot	2,840	2,401	5,145	4,631	15,017	11.3	14.9	27.2	26.3	19.3
Ring-necked duck	4,835	2,054	2,737	1,883	11,509	19.2	12.7	14.5	10.7	14.8
Blue-winged teal	3,467	2,312	2,042	3,384	11,205	13.8	14.3	10.8	19.2	14.4
Mallard	1,484	1,388	1,763	1,608	6,243	5.9	8.6	9.3	9.1	8.0
Green-winged teal	1,826	696	477	550	3,549	7.2	4.3	2.5	3.1	4.6
Sub-total	20,940	13,446	17,012	15,283	66,681	83.1	83.3	89.9	86.7	85.7
Shoveler	587	383	661	619	2,250	2.3	2.4	3.5	3.5	2.9
Widgeon	454	606	313	304	1,677	1.8	3.8	1.6	1.7	2.2
Redhead	1,342	123	57	64	1,586	5.3	0.8	0.3	0.4	2.0
Bufflehead	384	277	201	363	1,225	1.5	1.7	1.1	2.1	1.6
Ruddy Duck	351	111	103	208	773	1.4	0.7	0.5	1.2	1.0
Pintail	188	297	108	140	733	0.7	1.8	0.6	0.8	0.9
Sub-total	3,306	1,797	1,443	1,698	8,244	13.0	11.2	7.6	9.7	10.6
American goldeneye	259	111	113	224	707	1.0	0.7	0.6	1.3	0.9
Canada goose	144	158	98	143	543	0.6	1.0	0.5	0.8	0.7
Whistling swan	---	347	---	31	378	---	2.1	---	0.2	0.5
Canvasback	73	157	51	72	353	0.3	0.9	0.2	0.4	0.4
Wood duck	62	94	66	83	305	0.2	0.6	0.3	0.5	0.4
Red-breasted merganser	189	5	11	2	207	0.8	---	0.1	---	0.3
Sub-total	727	872	339	555	2,493	2.9	5.3	1.7	3.2	3.2
Gadwall	72	8	72	69	191	0.1	---	0.4	0.4	0.2
Hooded merganser	115	11	11	18	155	0.5	---	0.1	0.1	0.2
American merganser	82	7	4	---	93	0.3	---	---	---	0.1
Black duck	---	4	13	12	29	---	---	0.1	0.1	---
Blue goose	---	3	---	---	3	---	---	---	---	---
White-fronted goose	---	---	---	3	3	---	---	---	---	---
Sub-total	239	33	100	102	474	0.9	0.0	0.6	0.6	0.5
Total	25,212	16,148	18,894	17,638	77,892	100.0	99.9	99.8	100.2	100.0

Table 2. Number and percent of total waterfowl observed on the study ponds.

Pond	Number of Waterfowl Observed					Percent of Waterfowl				
	1968	1969	1970	1971	Total	1968	1969	1970	1971	Percent of Total
7	6,551	3,655	9,754	3,899	23,859	27.4	22.7	51.4	22.1	31.2
14**	---	6,604	62	3,842	10,508	---	41.0	0.3	21.8	13.7
6	4,356	872	2,009	2,077	9,314	18.3	5.4	10.6	11.8	12.2
18	3,811	1,062	1,285	2,045	8,203	16.0	6.6	6.8	11.6	10.7
20	1,610	260	1,085	666	3,621	6.7	1.6	5.7	3.8	4.7
21	1,742	233	468	765	3,208	7.3	1.4	2.5	4.3	4.2
Sub-total	18,070	12,686	14,663	13,294	58,713	75.6	78.7	77.3	75.4	76.7
24	1,117	418	596	655	2,786	4.7	2.6	3.1	3.7	3.6
8	611	559	440	447	2,057	2.6	3.5	2.3	2.5	2.7
11	470	327	942	287	2,026	2.0	2.0	5.0	1.6	2.6
9*	---	297	---	1,682	1,979	---	1.8	0.5	9.5	2.6
1	328	806	285	421	1,840	1.4	5.0	1.5	2.4	2.4
3	1,000	126	496	100	1,722	4.2	0.8	2.6	0.6	2.2
Sub-total	3,526	2,533	2,759	3,592	12,410	14.9	14.8	16.3	11.8	16.1
27	987	138	335	176	1,636	4.1	0.9	1.8	1.0	2.1
28	248	139	692	338	1,417	1.0	0.9	3.6	1.9	1.8
17	307	279	146	106	838	1.3	1.7	0.8	0.6	1.1
4	466	246	55	37	804	2.0	1.5	0.3	0.2	1.0
13	279	85	235	95	694	1.2	0.5	1.2	0.5	0.9
Sub-total	2,286	887	1,463	752	5,389	9.6	6.4	6.4	12.7	7.4
Total	23,883	16,106	18,885	17,638	76,512	100.1	99.9	100.0	99.9	100.2

* Ponds dried up early in 1968 and 1970.

** Total includes birds not identified to species.

Four wetland areas had about 68 percent of the total waterfowl use (Table 2). The most important was Pond Seven with 31.2 percent of the total. This pond was followed by Fourteen (13.7 percent), Six (12.2 percent), and Eighteen (10.7 percent). The Chi square analysis indicated there was a dependency between total waterfowl use, and species use for the various study ponds at the .01 level.

In terms of waterfowl use/acre, Pond Nine ranked first with 172 (Table 3). The next two were Ponds One and Eight with 126 and 102 birds per acre respectively. These three were all considered small ponds (less than 10 acres). The fourth and fifth ranking ponds were both large ones (over 20 acres). These were Seven and Fourteen with average values of 85 and 84 birds per acre respectively. The four lowest ranking contained one small, one medium, and two large ponds. Pond Six, the largest, (102.0 acres) ranked last with only 23 birds per acre.

During the study, the most important scaup ponds were Seven (20.9 percent), Six (16.7 percent), Eight (15.8 percent) and Twenty (9.4 percent) with over 60 percent of the scaup use (Table 4). Coots were the most selective species. Three ponds had 93 percent of their use. These were Seven (64.4 percent), Six (17.5 percent), and Fourteen (11.1 percent).

Four ponds had over 61 percent of the use by ring-necked ducks. These were Seven (21 percent), Eighteen (16.1 percent), Fourteen (14.8 percent), and Six (9.1 percent). No other pond had over 6.2 percent of their use.

Blue-winged teal tended to be the most widespread with five ponds being used by 62 percent of the birds. Pond Seven was again the most important with 24.9 percent. The only other important pond was Fourteen with 17.0 percent of the bluewings. These five ponds also had the largest number of nesting bluewings.

Three ponds were used by over 75 percent of the mallards. The important ponds were Seven (35.4 percent), Fourteen (24.3 percent), and Eighteen (15.6 percent). No other pond had over 3.2 percent of the mallard use.

Green-winged teal also tended to select specific ponds. Three ponds, Fourteen (21.9 percent), Seven (20.4 percent) and Eighteen (18.5 percent) had 61 percent of their use.

In summary, Pond Seven was the most important having from 20 to 64 percent of the total use of the six major species. It was followed by Fourteen which had from 11 to 24 percent of the use by five of the six major species, and Eighteen which had from 7 to 18 percent of the use by five species. Pond Six was the fourth most important through far behind from 9 to 18 percent of the use by three species.

The largest breeding population (due to the large increase in coots) was found in 1971. The breeding population (first week in June) was relatively stable the first three years.

Table 3. Acreage and waterfowl use/acre.

Table 3. Acreage and waterfowl use/acre.						
Pond	Average Acreage	1968	Waterfowl Use/Acre		1971	Average Waterfowl Use/Acre
			1969	1970		
9*	2.8	---	114.2	36.0	258.8	172.1
1	3.6	91.1	232.9	79.2	110.8	126.0
8	5.0	135.8	111.8	88.0	86.0	101.8
7	70.0	94.0	52.4	139.9	54.8	85.1
14*	31.2	---	131.6	20.7	54.9	84.0
28	5.0	49.6	27.8	138.4	67.6	70.8
3	7.0	142.9	18.0	70.9	14.0	61.4
17	3.7	83.0	75.4	39.5	28.6	56.6
13	3.2	87.2	26.6	73.4	28.4	53.9
27	8.2	120.4	16.8	40.8	21.5	49.9
21	17.6	97.9	13.1	26.3	45.0	45.6
18	51.2	73.4	20.4	24.8	41.6	40.0
24	19.7	56.7	21.2	30.2	33.1	35.3
20	28.6	56.3	9.1	27.9	23.2	31.6
11	16.2	29.7	20.7	59.6	16.4	31.2
4	6.8	68.5	36.2	8.1	5.4	29.6
6	102.9	42.0	8.4	19.4	20.6	22.6

* Ponds were dry or dried up early in 1968 and 1970.

Table 4. Number and percent of each major species total observed on the study ponds.

Pond	Species	Number of Waterfowl Observed					Percent of Waterfowl				
		1968	1969	1970	1971	Total	1968	1969	1970	1971	Total
1	Scaup	2	566	114	122	804	---	12.3	2.4	3.8	4.2
	Coot	---	---	---	6	6	---	---	---	0.1	---
	Ring-necked duck	6	64	10	---	80	0.1	3.1	0.4	---	0.7
	Blue-winged teal	210	121	116	157	604	6.1	5.2	5.7	4.6	5.4
	Mallard	41	15	8	18	82	2.8	1.1	0.5	1.1	1.3
	Green-winged teal	20	---	25	17	62	1.1	---	5.2	3.1	1.7
3	Scaup	338	69	100	---	507	5.2	1.5	2.1	---	2.6
	Coot	1	---	3	---	4	---	---	0.1	---	---
	Ring-necked duck	299	2	95	---	396	6.2	0.1	3.5	---	3.4
	Blue-winged teal	144	43	227	88	502	4.2	1.9	11.1	2.6	4.5
	Mallard	6	---	27	12	45	0.4	---	1.5	0.7	0.7
	Green-winged teal	67	---	8	---	75	3.7	---	1.7	---	2.1
4	Scaup	26	77	---	---	103	0.4	1.7	---	---	0.3
	Coot	2	---	---	---	2	0.1	---	---	---	0.1
	Ring-necked duck	138	16	5	---	159	2.9	0.8	0.2	---	1.4
	Blue-winged teal	117	108	17	27	269	3.4	4.7	0.8	0.8	2.4
	Mallard	22	15	7	10	54	1.5	1.1	0.4	0.6	0.9
	Green-winged teal	25	7	---	---	32	1.4	1.0	---	---	0.9
6	Scaup	1,642	408	737	297	3,084	25.3	8.9	15.2	9.2	16.1
	Coot	530	318	512	1,272	2,632	18.7	13.2	10.0	27.5	17.5
	Ring-necked duck	460	2	419	169	1,050	9.5	0.1	15.3	9.0	9.1
	Blue-winged teal	27	27	117	106	277	0.8	1.2	5.7	3.1	2.5
	Mallard	28	5	49	92	174	1.9	0.4	2.8	5.7	2.8
	Green-winged teal	48	---	50	24	122	2.6	---	10.5	4.4	3.4
7	Scaup	1,152	1,040	1,578	240	4,010	17.8	22.6	32.5	7.4	20.9
	Coot	1,791	934	4,486	2,456	9,667	63.1	38.9	87.2	53.0	64.4
	Ring-necked duck	1,121	368	667	261	2,417	23.2	17.9	24.4	13.9	21.0
	Blue-winged teal	1,071	598	669	449	2,787	30.9	25.9	32.8	13.3	24.9
	Mallard	341	358	1,258	252	2,209	23.0	25.8	71.4	15.7	35.4
	Green-winged teal	464	24	230	5	723	25.4	3.4	48.2	0.9	20.4

Table 4. Number and percent of each major species total observed on the study ponds.

Pond	Species	Number of Waterfowl Observed					Percent of Waterfowl				
		1968	1969	1970	1971	Total	1968	1969	1970	1971	Total
8	Scaup	---	173	5	40	218	---	3.8	0.1	1.2	1.1
	Coot	2	17	18	15	52	0.1	0.7	0.3	0.3	0.3
	Ring-necked duck	---	50	230	4	284	---	2.4	8.4	0.2	2.5
	Blue-winged teal	295	186	104	260	845	8.5	8.0	5.1	7.7	7.5
	Mallard	27	37	30	28	122	1.8	2.7	1.7	1.7	2.0
	Green-winged teal	227	19	13	39	298	12.4	0.7	2.7	7.1	8.4
9	Scaup	---	138	---	485	623	---	3.0	---	15.0	3.3
	Coot	---	5	---	7	12	---	0.2	---	0.2	0.1
	Ring-necked duck	---	54	---	130	184	---	2.6	---	6.9	1.6
	Blue-winged teal	---	33	21	367	421	---	1.4	1.0	10.8	3.8
	Mallard	---	19	30	48	97	---	1.4	1.7	3.0	1.6
	Green-winged teal	---	11	23	124	158	---	1.6	4.8	22.5	4.5
11	Scaup	20	23	107	34	184	0.3	0.5	2.2	1.1	1.0
	Coot	51	77	78	170	376	1.8	3.2	1.5	3.7	2.5
	Ring-necked duck	106	100	189	5	400	2.2	4.9	6.9	0.3	3.5
	Blue-winged teal	88	62	194	6	350	2.5	2.7	9.5	0.2	3.1
	Mallard	56	11	29	15	111	3.8	0.8	1.6	0.9	1.8
	Green-winged teal	57	---	43	9	109	3.1	---	9.0	1.6	3.1
13	Scaup	119	55	120	31	325	1.8	1.2	2.5	1.0	1.7
	Coot	10	1	---	2	13	0.4	---	---	---	0.1
	Ring-necked duck	24	---	---	---	24	0.5	---	---	---	0.2
	Blue-winged teal	76	---	59	54	189	2.2	0.5	2.9	1.6	1.7
	Mallard	21	11	7	2	41	1.4	0.8	0.4	0.1	0.7
	Green-winged teal	12	---	---	---	12	0.7	---	---	---	0.3
14	Scaup	---	815	---	11	826	---	17.7	---	0.3	4.3
	Coot	---	1,037	---	630	1,667	---	43.2	---	13.6	11.1
	Ring-necked duck	---	1,058	---	644	1,702	---	51.5	---	34.2	14.8
	Blue-winged teal	---	693	2	1,208	1,903	---	30.0	0.1	35.7	17.0
	Mallard	---	670	58	789	1,517	---	48.3	3.3	49.1	24.3
	Green-winged teal	---	608	---	170	778	---	87.3	---	30.9	21.9

Table 4. Number and percent of each major species total observed on the study ponds.

Pond	Species	Number of Waterfowl Observed					Percent of Waterfowl				
		1968	1969	1970	1971	Total	1968	1969	1970	1971	Total
17	Scaup	---	124	37	4	165	---	2.7	0.8	0.1	0.9
	Coot	24	2	2	4	32	0.9	---	---	---	0.2
	Ring-necked duck	---	20	3	---	23	---	1.0	0.1	---	0.2
	Blue-winged teal	171	66	47	50	334	4.9	2.9	2.3	1.5	3.0
	Mallard	43	64	34	34	175	2.8	4.6	1.9	2.1	2.8
	Green-winged teal	12	2	6	---	20	0.7	0.3	1.3	---	0.6
18	Scaup	683	635	771	936	3,025	10.5	13.8	15.9	29.0	15.8
	Coot	79	8	12	54	153	2.8	0.3	0.2	1.2	1.0
	Ring-necked duck	1,210	89	186	369	1,854	25.0	4.3	6.8	19.6	16.1
	Blue-winged teal	308	123	94	224	749	8.9	5.3	4.6	6.6	6.7
	Mallard	631	117	109	116	973	42.5	8.4	6.2	7.2	15.6
	Green-winged teal	481	15	28	131	655	26.3	2.2	5.9	23.8	18.5
20	Scaup	704	200	588	311	1,803	10.9	4.4	12.1	9.6	9.4
	Coot	96	1	11	5	115	3.4	---	0.2	0.1	0.8
	Ring-necked duck	541	2	86	79	708	11.2	0.1	3.1	4.2	6.2
	Blue-winged teal	87	17	179	20	303	2.5	0.7	8.8	0.6	2.7
	Mallard	29	3	42	36	110	2.0	0.2	2.4	2.2	1.8
	Green-winged teal	49	---	29	10	88	2.7	---	6.1	1.8	2.5
21	Scaup	747	41	162	289	1,239	11.5	0.9	3.3	9.0	6.5
	Coot	---	---	---	---	---	---	---	---	---	---
	Ring-necked duck	138	---	104	22	264	2.9	---	3.8	1.2	2.3
	Blue-winged teal	137	142	119	252	650	4.0	6.1	5.8	7.4	5.8
	Mallard	58	35	26	22	141	3.9	2.5	1.5	1.4	2.3
	Green-winged teal	241	---	4	21	266	13.2	---	0.8	3.8	7.5
24	Scaup	510	189	165	366	1,230	7.9	4.1	3.4	11.3	6.4
	Coot	86	3	1	10	100	3.0	0.1	---	0.2	0.7
	Ring-necked duck	187	96	289	116	688	3.9	4.7	10.6	6.2	6.0
	Blue-winged teal	82	49	29	40	200	2.4	2.1	1.4	1.2	1.8
	Mallard	114	22	32	32	200	7.7	1.6	1.8	2.0	3.2
	Green-winged teal	19	---	13	---	32	1.0	---	2.7	---	0.9

Table 4. Number and percent of each major species total observed on the study ponds.

Pond	Species	Number of Waterfowl Observed					Percent of Waterfowl				
		1968	1969	1970	1971	Total	1968	1969	1970	1971	Total
27	Scaup	378	19	147	56	600	5.8	0.4	3.0	1.7	3.1
	Coot	---	---	---	---	---	---	---	---	---	---
	Ring-necked duck	370	79	133	48	630	7.7	3.8	4.9	2.5	5.5
	Blue-winged teal	18	16	5	4	43	0.5	0.7	0.2	0.1	0.4
	Mallard	8	---	---	8	16	0.5	---	---	0.5	0.3
	Green-winged teal	14	---	---	---	14	0.8	---	---	---	0.4
28	Scaup	4	10	196	5	215	0.1	0.2	4.0	0.2	1.1
	Coot	1	---	2	---	3	---	---	---	---	---
	Ring-necked duck	57	23	319	36	435	1.2	1.1	11.7	1.9	3.8
	Blue-winged teal	23	10	54	72	159	0.7	0.4	2.6	2.1	1.4
	Mallard	27	2	12	94	135	1.8	0.1	0.7	5.8	2.2
	Green-winged teal	4	---	5	---	9	0.2	---	1.0	---	0.3

DISCUSSION AND CONCLUSIONS

Six species made up 85.7 percent of the 77,892 birds observed. Western Wisconsin wetlands are important during the spring migration of scaup, ring-necked ducks, mallards, blue-winged and green-winged teals, and coots. The latter four species also nested in the area. Eighteen other species were recorded using the study area but none of them made up 3.0 percent of the total. However, six of these species nested successfully in the area. These were Canada geese, ruddy ducks, wood ducks, pintails, shovelers, and hooded mergansers.

The most important two ponds in the study area were Seven and Fourteen with 45 percent of the total use. They were the only ponds than ranked in the top five in terms of total use and waterfowl use per acre (measure of efficiency). Their importance was further demonstrated by Pond Seven having 20 to 64 percent of the use by all six of the major species and Fourteen having 11 to 24 percent of the use of five of the six species. The other two ponds (Six and Eighteen) with over 10 percent of the total use ranked twelfth and last in terms of waterfowl use per acre.

Generally, larger ponds had the greatest use and smaller ponds the greatest use per acre. This was due to smaller ponds having a greater amount of "edge" per unit area (Leopold, 1933) and the fact that considerable sections of the largest lakes were covered by dense vegetation or had large portions of open water.

There was evidently enough ecological diversity present to satisfy the needs of several species on Ponds Seven and Fourteen. Up to 15 species were recorded on Seven and 16 species on Fourteen on one count day.

Coots were the most selective species and were found on the ponds which had the greatest amounts of emergent vegetation. Undoubtedly, this was influenced by their habit of nesting over water. Mallards and green-winged teal were the next most selective in their choice of habitat. Mallards chose the larger shallow ponds which contained large amounts of emergent vegetation. The same appeared to be true for greenwings.

The equal selectivity displayed by scaup and ring-necks was due to their having three of the four important ponds in common. Again, they preferred the larger ponds with deeper open water areas. The only exception was Pond Fourteen which was large but shallow and which received a large amount of ringneck use.

Pond Eighteen was a good example of habitat preference. The shallow vegetated end was preferred by mallards and greenwings. Very few ringnecks and no scaup were observed on this portion of the pond. On the other hand, the deeper open water area of the pond was used by large numbers of scaup and ringnecks but only rarely by mallards and greenwings.

The lower degree of pond selectivity displayed by blue-winged teal may have been due to dispersal associated with nesting as well as a natural tendency to favor smaller wetland areas.

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Letters to the Editor

March 10, 1975

Dear Mr. Kemper:

I am a member of W.S.O. and have been birding for about four years. I lived in Madison the last six years and moved to the Twin Cities in July. I would like to relate to you a sighting I made March 8, 1975.

Two friends and I wanted to spent a day observing the out of doors. We picked Interstate State Park on the St. Croix River and after walking a mile and a half on a snowpath through the woods we ascended a rocky knoll overlooking the River and observed a circling bird.

We were on the East bank of the River, in Wisconsin looking West into Minnesota. The day was clear and crisp, a high temperature of 19°F. There was 6-12 inches of snow covering the ground and there was a varying breeze from the North. It was 3:00 P.M. Our knoll gave us unobstructed viewing.

The bird was perhaps 70 yards overhead when initially seen by me. I was using Bell & Howell 8 x 40 Extra Wide Angle Binoculars and Robins, Birds of North America.

The bird was large, it was a hawk. The hawk was circling counter-clockwise over the East bank of the St. Croix River, initially quite low but consistently gaining height. I did not see him beat his wings once. He would tilt from side to side as what I presume to be upward air currents buffeted him. His wings were broad and blunt ended. They were smooth with no missing feathers, wingspan was 42" give or take a few inches. The wings were predominantly dark, but not black, they were flaked with white, the wrists were noticeably lighter. The belly was light and there was a tendency to off yellow on the sides below the wings. The chest was a distinctive zone of brown with a reddish flavor. The face was lighter, but not distinctive. His tail was fully fanned, there was a narrow bank of black at the base, the rest appeared whitish with gray undertones. When tilting his back appeared a flat unbroken gray.

The hawk continued circling, higher, higher, until many hundreds of yards over the earth and then veered off gracefully and swiftly to the South and was gone in seconds. There was never a sound.

I believe this bird was a Swainson's Hawk. I have seen Swainson's Hawk three previous times in Montana, Kansas, and Iowa. Hawks are difficult birds to identify, I have seen many that I could not record. This bird's markings, his chest of brown and narrow black tail band were as clear as the day was. One friend who had set of 7 x 35 binoculars and although an inexperienced observer of bird markings concurs with these distinctive features. He was a rewarding sighting, one I will long remember.

I am aware that the location and date do not fit Swainson's Hawk's customary patterns, but I am sincere in my relating of this sighting to you.

Howard M. Deer
1538 Hillside Avenue
Minneapolis, Minnesota 55411

April 4, 1975

Dear Dr. Kemper:

When I was at school on March 10, Chickadees, Juncos, Starlings and Red and White Nuthatches were eating at our feeder in Verona.

When a Red Breasted Nuthatch was eating at our feeder he got tangled in the rope. My dad ran out to save it, but was already dead.

So my mom called up a friend and asked her where you could take dead birds to be used in research. She told us about a zoology building in Madison. We kept it in the freezer until we were ready to take it to the zoology building. When we got there they showed us what they did with the bird.

They take bones out put them in a box and put in their shelves. Also they made a skin out of it.

If you find any kind of dead bird (even a Starling) take it to the zoology building at University of Wisconsin, Madison.

Paul Young
Verona, Wisconsin 53593

HERKIE

By CERIE M. MULLER

I found Herkie one day in April 1974 when I was working for my sister on her farm. I was cleaning a silo out by hand when a baby pigeon fell out of his nest at the top of the silo. The neighbor who was with me wanted to have him killed so I took him home for the judgment of my parents whether he could stay or not.

He was half down and half feathers, about three weeks old. He had to be hand fed with bread and milk. His beak was held between the thumbs and index finger, while bread soaked in milk was placed in the back of his throat, and an eye dropper was used for giving him straight milk. As he got older and his feathers came in thicker we took him outside more often and tested his wings by tossing him gently into the air. At first his landings were quite rough but gradually he got smoother landings and increased his flight area. We changed his diet from milk soaked bread to bird seed. He grew rapidly on that and we built him a box of plywood with a sliding door and a tar paper roof outside. Soon he outgrew the bird seed and the plywood box kept getting too wet and damp for him to stay there. So we cut a hole in the shed wall and placed the box on shelves inside the shed for an inside/outside coup. We also placed him on dried corn kernels, that took some time for he was used to small pieces of bird seed.

Well that brings us up to date on the tame pigeon in our family. He stays close to the house all day now, and I put him inside at night for protection. He's free to leave anytime but I hope he stays were he's wanted.

Winter Food Habits of Ruffed Grouse In Young Aspen Stands

By P. V. VANDERSCHAEGEN and J. C. MOULTON

We investigated winter food habits of ruffed grouse (*Bonasa umbellus*) as part of a study of grouse distribution and density in large, even-age stands resulting from clearcutting. These tracts are in central Oneida County, and were commercially clearcut 10-15 years ago. The resulting tracts ranged from 82 to 308 acres, and contained dense stands of aspen (*Populus tremuloides*) suckers. Beaked hazel (*Corylus cornuta*) was abundant in the understory and white birch (*Betula papyrifera*) was generally common in the overstory. Both species provided an abundance of catkins during the study period (winter of 1972-1973). Also present were approximately ten 5-inch or larger diameter aspen trees per acre scattered through the aspen sucker stands.

We wanted to determine what winter foods grouse were using in these young aspen stands. Therefore, in January and February of 1973, we collected droppings from 46 ruffed grouse roosts. Snow during the collection period was about 12 inches deep and crusted so that grouse could not burrow in it. The droppings in a grouse winter roost probably represent one meal resulting from either a morning or an evening feeding period. Thus, we sampled about 46 individual ruffed grouse meals eaten during mid-winter.

The droppings were examined dry under a 10 and 20 power binocular dissecting microscope. The presence of food remains were noted and their volume in each dropping was estimated. Percent of occurrence of each item found is listed in the following table.

FOODS ITEMS FOUND IN 46 RUFFED GROUSE WINTER ROOSTS

Food Item	Number of Roosts	Percent Occurrence
Aspen (<i>Populus tremuloides</i>)		
Male flower buds	11	24
Leaf buds	41	89
Total	42	91
Hazel (<i>Corylus cornuta</i>)		
Catkins	20	43
Buds	6	13
Total	22	48
Birch (<i>Betula papyrifera</i>)		
Catkins	2	4
Cherry (<i>Prunus</i> sp.)		
Buds	1	2
Balsam Fir (<i>Abies balsamifera</i>)		
Needle	1	2
Leaves - All Species	16	35
Grit	2	4

The foods used by these Ruffed Grouse were similar to those used by grouse living in more mature stands in Minnesota (Vanderschaegen. 1970. M.S. Thesis. U. of Minn.). Aspen buds and hazel catkins formed the bulk

of the Wisconsin winter diet in terms of volume as well as occurrence. Leaves were also frequently used. These included fern fronds from an unidentified species (probably *Dryopteris austriaca*), wintergreen (*Gaultheria procumbens*) and goldthread (*Coptis groenlandica*). White birch catkins and cherry buds also were found in droppings. These species were also used in northern Minnesota.

The single food item comprising the highest volume and occurring in the highest percent of droppings was aspen buds. It is known that Ruffed Grouse feed intensively on the buds of older aspen trees in the winter (Svoboda and Gullion. 1972. J. Wildl. Manage. 36(4):1166-1180). We wanted to determine if these birds were also feeding as intensively on aspen buds in the large stands of young aspen where some older aspen trees were scattered. As a result of these investigations, we confirmed that aspen made up a major component of ruffed grouse winter diets in these large stands of young aspen, even though the older aspen trees were not common in the areas studied.

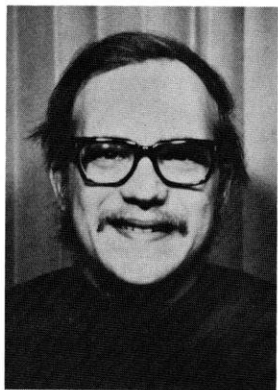
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OF GEESE AND MEN

By MICHAEL SHURGOT

The author is presently employed half-time as editor of the **Wisconsin Reporter**, which is published by Environment Wisconsin. He has been a member of Friends of The Earth for the past two and one-half years, and from September, 1973 to September 1974, he was chairman of the Madison Chapter of F.O.E. He is completing a Ph.D. in English at the UW, and has a background in teaching and counseling. He was born in Buffalo, N.Y., 1943, and received a M.A. in English at the University of Minnesota in July, 1968.

The environmental crisis which presently confronts mankind can be attributed to several obvious causes. Excessive pollution of the air and



water, an appalling disregard for wildlife and the inherent beauty of wilderness, an almost unlimited population growth, and a system of values which emphasizes material goods may all be identified as immediate factors in our current environmental dilemma. As a result of our abuse of the world's ecological balance we are now compelled to search for bold and innovative solutions to the innumerable difficulties caused by our previous disregard for the earth's natural environment. Indeed the environmental crisis may be defined as the sudden, collective realization by the human race that there is no longer anywhere on the globe that we can go to escape our past, and in the midst of this

frightening revelation there exists the need for mankind to formulate a new awareness of his place in the natural scheme of things.

While each of the individual factors mentioned above has contributed to the environmental deterioration of our planet, one might suggest that underlying the various examples of our destructive intrusion into the world's ecology there is a single common denominator: a total disregard for the integrity of the land itself. This principal has never been expressed more clearly than in Aldo Leopold's seminal observation that the land is not something which we own, but a community to which we belong. Instead of adapting our lives to the ecological balance of the natural landscape, we seem intent on altering the land to suit our selfish, commercial demands. This it appears that as long as the human race continues to consider itself separate from and superior to the world's ecological balance we can expect only a continuing deterioration in the quality of life on this planet.

On a trip to the Horicon National Wildlife Refuge in eastcentral Wisconsin last September, I had occasion to reflect upon some of the above thoughts, and to wonder if perhaps a significant lesson might be learned by pondering the history of Horicon Marsh, where annually thousands of wildfowl find rest and nourishment during their treacherous southern journey. As most residents of Wisconsin know, the Horicon Marsh has not always been a wildlife refuge. Man began fooling with the area in 1845, when a dam was constructed across the Rock River at Horicon, creating a vast artificial lake. The original dam was removed in 1868, allowing the marsh to return to its original, natural state, but between 1909 and 1914 extensive drainage and dredging of the Rock River occurred, ostensibly for development purposes, and a huge grid of ditches was created which destroyed the meandering and free-flowing Rock River. It was not until 1927, after several years of persistent efforts to save the marsh by the Izaak Walton League of Wisconsin, that a bill establishing the Horicon Wildlife Refuge was passed by the Wisconsin legislature and signed into law by the Governor, and not until October, 1934 were the gates of the second Horicon dam finally closed, thus restoring the waters to the marsh's 40,000 acres. Even today the marsh itself is an oasis of wilderness tranquility surrounded by the constant hysteria of man's agricultural and commercial machines, and one wonders how the birds manage to maintain their obvious serenity when they are being constantly challenged on all sides of the refuge by such unrelenting human activity. But remain calm they do, and it is only because of the extraordinary dedication of the Izaak Walton League that this beautiful parcel of land and water exists today as a wildlife refuge.

On the particular September afternoon of my visit to Horicon I was watching the birds and pondering the larger environmental consequences of efforts to save wilderness and wildlife habitats when my daughter Mara suddenly pointed to the north and shouted "More Birds!" I turned quickly to me left and beheld one of the most thrilling natural sights I have ever witnessed, abandoning immediately all pretence to a "rational" appreciation of the marsh. For coming in from the north was a flock of twenty to thirty geese, all of them imitating precisely the flight pattern of a lead goose which directed his followers in a circular motion above a meadow between the river and a field of corn and tall grass. As the birds flew in gradually diminishing circles, it appeared as if they

were pursuing the descent of an imaginary staircase which slowly lowered them from their original height to the welcomed terrain below. I could not help noticing the absolute conviction with which the geese approached the marsh, and I sensed in their arrival at Horicon a conviction that this refuge, known to them and to thousands of their ancestors, was absolutely unchanged from their previous visit. It was their land, their waters, their home for the nonce, and nothing, not even the cruel interventions of man which for many years had threatened the marsh, could any longer alter this sanctuary. The latest arrivals landed as gently as falling leaves from an autumn maple, and they settled completely undisturbed by their fellow travelers.

During the long drive back to Madison, I ignored my wife's conversation, for my mind was on the birds. How different from the geese, I thought, was my situation as I headed along highway 151 back to my home. The Canadian geese I had watched all afternoon had, at least for the moment, a patch of land in Wisconsin with a relatively stable environment, and the geese would do as they have for the past forty years and for the many decades before man tried to destroy the great Horicon Marsh; they would adapt their lives to the characteristics of that environment. Man, on the other hand, insists on attempting to shape the environment to suit his selfish and materialistic values, rather than shaping his mind to harmonize with the environment. For all I knew, the evening paper waiting for me on my doorstep when I arrived home would contain news of a new round of atomic blasts in the Pacific, or plans to clear-cut another national forest.

Perhaps a comparison between the Canadian geese at Horicon and mankind in general is too simple, but I believe nonetheless that an important ecological lesson can be learned by considering the efforts of a select group of men, in this instance the Wisconsin Izaak Walton League, to save and restore the wilderness of Horicon. Through planned and coordinated efforts the Horicon National Wildlife Refuge is maintained as a secure sanctuary for wildfowl, and the marsh is once again an integral part of the life cycle of thousands of migrating birds. One is thus struck by a strange paradox: if man can do this for the geese, why can't he do it for himself? Again I admit that the comparison between geese and men is somewhat over-simplified, but one has to wonder why mankind has apparently failed to grasp the general significance of preserving that which is ecologically vital to the survival of so many species of wildlife. We as a species pride ourselves on our rationality and on our scientific and engineering capability, yet we seem unwilling or unable to cease destroying the very vital and fragile ecological balance which sustains our own lives and the lives of all creatures on this planet. At Horicon one may see living proof that many can preserve life, that we can work with nature to maintain the delicate balance between population and natural resources. And so again I ask: if man can understand the need to preserve something as necessary to the life of wildfowl as Horicon Marsh, why can't he understand the parallel need to preserve on a broader and more comprehensive scale the natural resources, the air and water, and the land itself, which are so vital to his existence? The problem

is vast, but the principal which ought to guide our every action is simple indeed.

It seems that because man is what he is his flight through this world must always be frightening and uncertain, and one can only hope that at some future time man's journey can attain the sense of serenity and conviction which characterized the landings of the Canadian geese at Horicon. Man must learn to build for himself his own Horicon on this troubled globe, for, like the birds I observed on that beautiful September afternoon, man too needs to find a stable and ecologically secure home.

CHURCH vs. PIGEON

Wherever the passenger pigeon went, it probably wasn't to heaven.

In about 1700, pigeon damage to French-Canadian crops was so severe that the Bishop of Quebec excommunicated the birds several times.

Over 200 years later, a French-Canadian gave the reason for the passenger pigeon's extinction: "The depredations were so severe in a parish up the Gatineau, that the priest decided to invoke the aid of God. He therefore laid a curse on the pigeons and from then on their number decreased until now they are no more."

—Submitted by Karl Bartels



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