

The Delta Marsh Christmas bird count: 1975-1997

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Introduction

The Delta Marsh Christmas Bird Count has been completed 23 times since 1974 when it was first reported in *American Birds* (volume 30, issue 2, page 204, 1975). The Christmas Bird Count in North America represents an enormous data base that is weakly standardized and useful in establishing trends for certain bird species. Over the continent, more than 45,000 observers take to the field over a two-week period encompassing Christmas day. During this period in 1996, 1,700 areas were examined and 53 million birds of 626 species were counted.

The Christmas Bird Count had its origin in 1900 as a substitute for the annual "side-shoot" an activity where hundreds of birds were shot during a single hunt. Frank M. Chapman, Editor of the Audubon Society's *Bird Lore* Magazine, made a suggestion that a portion of Christmas day be spent with the birds and that the count be sent to him for publication in the magazine. That first year, 25 counts were made in United States and Canada.

The count at Delta Marsh originated with a 1971 attempt to see if it would be possible to operate a full-fledged count in the area. The results (96 birds of 12 species, including several blackbird and waterfowl species) were reported by Copland (1972). The count began formally in 1974 when two observers covered the present area as intensively as possible within the constraints of time and weather.

Methods

Christmas Bird Counts have a defined boundary, being a circle with a 15 mile diameter. The Delta Marsh Count centre is the PR227 highway bridge across Portage Creek. This maximizes the amount of marsh included in the circle. About 25 percent of the count area is marsh and wet meadow habitat, another 25 percent is the open water of Lake Manitoba and the larger marsh bays, about 5 percent is urban habitat (Oakland and High Bluff), and the remainder open agricultural lands. A major change in the agricultural landscape has occurred with an increase in the amount of shelterbelt plantings during the past 10 years.

Each year, the circle has been covered by one to seven parties of one to four observers each. The count starts at

dawn and continues to dark, usually for a maximum of nine hours. All birds encountered within the circle are identified and counted. It is the responsibility of the count compiler to enlist people to complete the count, then to summarize the results, and finally to submit the results to the National Audubon Society for publication in its Field Notes.

Results

Since initiated, 60 bird species have been identified during the Delta Marsh Christmas bird counts (Table 1). Fifteen species have occurred in more than 75 percent of the counts and can be considered usual winter residents (Table 2). This list includes: Gray Partridge, Sharp-tailed Grouse, Rock Dove, Great Horned Owl, Snowy Owl, Downy Woodpecker, Hairy Woodpecker, Blue Jay, Black-billed Magpie, Black-capped Chickadee, White-breasted Nuthatch, European Starling, Snow Bunting, Common Redpoll, and House Sparrow. These species provide numbers sufficient to show trends and have been used to establish movements in Snowy Owls (Kirk 1994) and, to some extent, population trends in the Gray Partridge and Sharp-tailed Grouse (Jones, in prep.).

Sixteen bird species have been observed in 25 to 75 percent of the counts. The variation in numbers can be explained in some of the species. Wild Turkey is a recent appearance in the area, with the first observation made in 1984. By 1991, this species was sufficiently numerous to appear each year at farmsteads in the count area. The presence of these birds can be attributed to the efforts of the "Wild Gobblers Association" and feeding efforts by certain farmers. The disappearance of the Canada Goose after 1984 can be attributed to the lack of open water in the area and a cessation of feeding by Delta Waterfowl and Wetlands Research Station.

Twenty-nine species were observed in less than 25 percent of counts. These birds are either present every year in very low numbers, such as the Northern Goshawk, Short-eared Owl, Red-breasted Nuthatch and Lapland Longspur, exhibit somewhat irruptive behaviour, such as the Crossbills and Purple Finch, or have gotten into a normally poor habitat situation and somehow found a good food source that has allowed them to survive into the Christmas week period.

Table 1. Bird species observed during the Christmas bird count at Delta Marsh between 1975 and 1997.

Common name	Latin name
American Goldfinch	<i>Carduelis tristis</i>
American Wigeon	<i>Anas americana</i>
Bald Eagle	<i>Haliaeetus leucocephalus</i>
Black-backed Woodpecker	<i>Picoides arcticus</i>
Black-billed Magpie	<i>Pica pica</i>
Blackbird sp.	
Black-capped Chickadee	<i>Poecile atricapillus</i>
Blue Jay	<i>Cyanocitta cristata</i>
Bohemian Waxwing	<i>Bombycilla garrulus</i>
Boreal Chickadee	<i>Poecile hudsonicus</i>
Boreal Owl	<i>Aegolius funereus</i>
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>
Brown Creeper	<i>Certhia americana</i>
Brown Thrasher	<i>Toxostoma rufum</i>
Canada Goose	<i>Branta canadensis</i>
Cedar Waxwing	<i>Bombycilla cedrorum</i>
Common Grackle	<i>Quiscalus quiscula</i>
Common Redpoll	<i>Carduelis flammea</i>
Crow	<i>Corvus brachyrhynchos</i>
Dark-eyed Junco	<i>Junco hyemalis</i>
Downy Woodpecker	<i>Picoides pubescens</i>
European Starling	<i>Sturnus vulgaris</i>
Evening Grosbeak	<i>Coccothraustes vespertinus</i>
Golden Eagle	<i>Aquila chrysaetos</i>
Gray Partridge	<i>Perdix perdix</i>
Great Horned Owl	<i>Bubo virginianus</i>
Gyr Falcon	<i>Falco rusticolus</i>
Hairy Woodpecker	<i>Picoides villosus</i>
Harris's Sparrow	<i>Zonotrichia querula</i>
Hoary Redpoll	<i>Carduelis hornemanni</i>
Horned Lark	<i>Eremophila alpestris</i>
House Sparrow	<i>Passer domesticus</i>
Lapland Longspur	<i>Calcarius lapponicus</i>
Mallard	<i>Anas platyrhynchos</i>
Merlin	<i>Falco columbarius</i>
Mourning Dove	<i>Zenaida macroura</i>
Northern Cardinal	<i>Cardinalis cardinalis</i>
Northern Goshawk	<i>Accipiter gentilis</i>
Northern Shrike	<i>Lanius excubitor</i>
Pileated Woodpecker	<i>Dryocopus pileatus</i>
Pine Grosbeak	<i>Pinicola enucleator</i>
Pine Siskin	<i>Carduelis pinus</i>
Purple Finch	<i>Carpodacus purpureus</i>
Raven	<i>Corvus corax</i>
Red Crossbill	<i>Loxia curvirostra</i>
Red-breasted Nuthatch	<i>Sitta canadensis</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Ring-necked Pheasant	<i>Phasianus colchicus</i>
Robin	<i>Turdus migratorius</i>
Rock Dove	<i>Columba livia</i>
Rough-legged Hawk	<i>Buteo lagopus</i>
Ruffed Grouse	<i>Bonasa umbellus</i>
Rusty Blackbird	<i>Euphagus carolinus</i>
Screech Owl	<i>Otus sp.</i>
Sharp-tailed Grouse	<i>Tympanuchus phasianellus</i>
Short-eared Owl	<i>Asio flammeus</i>

Snow Bunting	<i>Plectrophenax nivalis</i>
Snowy Owl	<i>Nyctea scandiaca</i>
White-breasted Nuthatch	<i>Sitta carolinensis</i>
White-throated Sparrow	<i>Zonotrichia albicollis</i>
White-winged Crossbill	<i>Loxia leucoptera</i>
Wild Turkey	<i>Meleagris gallopavo</i>
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>

Cooperators

The Portage Natural History Group has sponsored the Delta Marsh Christmas Bird Count for the last ten years. In addition, many of the volunteers have come from this group. I would also like to express my appreciation for the many landowners that allow one or more of the various counting parties to trespass on their properties each year to count the birds at Christmas.

Volunteers

Appreciation is expressed to all the individuals who have assisted in this activity over the years. They include (in alphabetical order): Rob Anderson, Duke Andrich, Bob Barclay, Robin Barclay, Tom Bruce, Clarice Brown, Charles Burchill, Janet Baker, Carrie Braden, Calvin Cuthbert, Barry Chalmers, Dick Convery, Karen Convery, Steffanie Christianson, Shirley Christianson, Ken De Smet, Rick Durand, Heidi den Haan, Chris de Ruyck, Bruce Emberly, Karen Graham, Mora Gregg, Rene Guyot, George Hamlin, David Hatch, Al Hochbaum, Joan Hochbaum, Harry Harris, Keith Hobson, Eddie Hui, Mark Jones, Tom Jones, Bob Jones, Llew John, Cameron Jackson, B. Lamond, Nick Lutz, Russ Mead, Linda Muirhead, Wayne Neily, Gordon Ogilvie, Jim Ogilvie, Ray O'Connor, Richard Orlandini, Shiela Rohwer, Bruce Schnurr, Margaret Schnurr, Irwin Schellenberg, Norman Short, Alma Simm, Pat Thain, Laurie Todd, Joyce Tomchuk, John Tomchuk, Ian Ward, Peter Ward, Audrey Whettlauffer, Dennis Wiens, and Diane Wiens.

Literature Cited

- Copland, Herb. 1972. The Manitoba Christmas Count - 1971. Manitoba Naturalists Society (mimeo) 4pp + Tables.
- Kirk, D. A. 1995. Status report on the Snowy Owl in Canada. Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Status Report 16pp.

Table 2a. Number of birds counted each year during the Christmas count at Delta Marsh: 1975 - 1986.

Year	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Day/month	28/12	27/12	27/12	17/12	22/12	21/12	20/12	19/12	18/12	1-May	21/12	20/12
No. observers	2	5	4	6	10	7	7	12	7	8	6	10
American Goldfinch				1	584		1	41			3	
American Wigeon												
Bald Eagle							1					
Black-backed Woodpecker											*	
Black-billed Magpie	4	13	6	27	49	48	38	36	28	25	28	22
Blackbird sp.												
Black-capped Chickadee	12	18	12	6		15	15	21	59	85	26	40
Blue Jay	5	3	4	32	9	6	43	8	9	5	18	9
Bohemian Waxwing	1	*		136	1		23		15		45	22
Boreal Chickadee									1			
Boreal Owl												
Brewer's Blackbird				1						2	7	
Brown Creeper					2							
Brown Thrasher							1					
Canada Goose	60	6	7	4	4	1	8	52	1	17		
Cedar Waxwing					9							
Common Grackle					2	1	3	3	*	1		2
Common Redpoll	25	7	78	16	2	926	797	40	19	393	1,191	413
Crow					6	4		*			3	2
Dark-eyed Junco					7					2	5	3
Downy Woodpecker	1	4	2	6	17	15	9	8	11	9	4	4
European Starling			2		31	8	35	161	44	2	52	9
Evening Grosbeak	65	32	23	55	2	11	*			12	46	8
Golden Eagle					*						1	
Gray Partridge	*		35	60	80	35	11	18	83	45	45	13
Great Horned Owl	3	1	1	4	6	5	4	5	2	5	1	1
Gyr Falcon												
Hairy Woodpecker	3	5	4	7	14	10	8	6	11	9	8	5
Harris's Sparrow							1					
Hoary Redpoll						2	13			45	35	5
Horned Lark			2			2	1			1		
House Sparrow	24	139	279	156	790	678	1592	1494	618	1,183	85	1,017
Lapland Longspur					1					1	3	
Mallard					1		2					
Merlin								1				
Mourning Dove				1	3		1	1				
Northern Cardinal												
Northern Goshawk						1				2	1	1
Northern Shrike	1	1				1		1	1	2	4	2
Pileated Woodpecker												
Pine Grosbeak	2		115	5		35			10	48		
Pine Siskin	5				2	9					2	
Purple Finch				3								
Raven						1		19	*		1	2
Red Crossbill					6		1				*	
Red-breasted Nuthatch												
Red-winged Blackbird		1		1	1	1		1		1	1	3
Ring-necked Pheasant												
Robin					2							

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Table 2a. Continued

Rock Dove	48	5		26	35	16	19	24	7	23	8	60
Rough-legged Hawk								1				1
Ruffed Grouse			1	1	3	2	10			2		1
Rusty Blackbird				3	2							1
Screech Owl												1
Sharp-tailed Grouse	*	17	30	24	15	66	46	13	28	6	11	1
Short-eared Owl		*			*					2		
Snow Bunting	137	1,313	57	372	552	1,435	1	82	518	3,095	4,019	31
Snowy Owl			*	3	6	11	4	13	3	2	1	3
White-breasted Nuthatch	14	2	7	12	13	13	14	10	6	7	11	16
White-throated Sparrow								1				
White-winged Crossbill						1				2		
Wild Turkey										2		1
Yellow-headed Blackbird								1				
Total Species	17	16	18	25	32	30	27	26	19	31	31	31
No. Individuals	410	1,567	665	962	2,257	3,354	2,700	2,061	1,474	4,997	6,483	1,709

Table 2b. Number of birds counted each year during the Christmas count at Delta Marsh: 1987 - 1997.

Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Day/month	19/12	27/12	27/12	27/12	27/12	28/12	27/12	27/12	27/12	28/12	27/12
No. observers	7	12	14	12	13	4	11	9	8	10	18
American Goldfinch											
American Wigeon											*
Bald Eagle					1						
Black-backed Woodpecker											
Black-billed Magpie	32	23	24	8	38	8	28	20	12	10	40
Blackbird sp.								20			
Black-capped Chickadee	31	67	37	18	39	26	64	33	37	10	65
Blue Jay	7	9	28	5	16	8	33	4	6	8	26
Bohemian Waxwing	18		41		15		173		20	28	37
Boreal Chickadee											
Boreal Owl										1	
Brewer's Blackbird	3	2	8		1						4
Brown Creeper											
Brown Thrasher											
Canada Goose									*		
Cedar Waxwing							50	209		15	
Common Grackle	2		3			1				*	
Common Redpoll		27	333	102	240	1	362		68	5	199
Crow	3	2	14				1	2	2	5	1
Dark-eyed Junco		1	2	6	1				*	2	
Downy Woodpecker	5	10	6	5	7	6	3	5	6	7	20
European Starling	8	8	10	10	11	2	6	6	10	2	10 ^c
Evening Grosbeak	2				1				*		5
Golden Eagle											
Gray Partridge	32	67	214	25	62	10	16		12	*	26
Great Horned Owl	4	4	1	3	4	1	4	2		1	6
Gyr Falcon					1						
Hairy Woodpecker	6	10	13	6	1	9	15	5	1	10	12
Harris's Sparrow											

Table 2b. Continued

Hoary Redpoll			5		2		1				3
Horned Lark								40			
House Sparrow	1,675	725	1,055	437	1062	526	1269	222	446	540	1005
Lapland Longspur			10	2							
Mallard											*
Merlin								1			
Mourning Dove							1				1
Northern Cardinal											1
Northern Goshawk										*	
Northern Shrike	2		2	1			2	1			1
Pileated Woodpecker					1			1	1		
Pine Grosbeak			107		62	8			3	12	253
Pine Siskin								41	5		25
Purple Finch					2						
Raven	1	1	3	9	7	1	3	1	6	1	3
Red Crossbill											
Red-breasted Nuthatch			1				1		*	1	1
Red-winged Blackbird	4		6	2	2						
Ring-necked Pheasant	1										
Robin						2	7	1		12	1
Rock Dove	74	90	116	19	65	1	53	35	8	104	127
Rough-legged Hawk	4							*			
Ruffed Grouse			3	2							
Rusty Blackbird		3	2	3	1						
Screech Owl		1	1		*						
Sharp-tailed Grouse	11	9	6	4	14		13			1	21
Short-eared Owl	2	1	1							*	
Snow Bunting	1,500	1,000	1,621	1,790	1,752	505	1,663	1,065	210	787	332
Snowy Owl	5	1		2	1	5	3	4	1	4	4
White-breasted Nuthatch	29	16	35	11	17	14	12	7	7	9	44
White-throated Sparrow											
White-winged Crossbill	7		5								
Wild Turkey					17	13	40	65	15	40	49
Yellow-headed Blackbird	1			1							
Total Species	27	22	31	23	15	30	25	23	20	24	29
No. Individuals	3,479	2,079	3,715	2,485	612	3,404	3,823	1,739	876	1,617	2,322