

# **Kimiwan Lake Avian Inventory 2000**

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April 2000

## **Project Partners:**

Bird Studies Canada  
Bird Life International  
Canadian Nature Federation  
Ducks Unlimited Canada  
Alberta Natural Resources Service  
Kimiwan Lake Wildlife & Preservation Society  
Federation of Alberta Naturalists  
Lesser Slave Lake Bird Observatory  
Government of Canada Millennium Partnership Program

## **Acknowledgments**

There were many people who contributed their time and resources to this project. Thank you to Reg Arbuckle who provided valuable feedback and advice on the study design and reviewed drafts of the report; to Pam Heckbert for organizational support and field crew meals and accommodations; to Jul Wojnowski for field assistance; to Louise Faulkner for financial administration of the project and review of report drafts; to Frank Fraser for organizational support; to Anne Hubar for review of report drafts; to Kristofer Heemeryck for map production work; to Dennis Cloutier and the Town of McLennan who gratefully provided access to lands around the lake and of course to the funding partners without which this project would not have been possible.

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## **1 Introduction**

In 1999 Kimiwan Lake was nominated and accepted as an Important Bird Area (IBA). The IBA program, funded through Bird Studies Canada, Bird Life International, Canadian Nature Federation, and the Canadian Millennium Partnership Program, recognizes locations across Canada which contain significant bird resources. There are four general categories of IBA sites. They include sites which hold significant numbers of endangered, threatened or vulnerable bird species, sites that hold endemic species or those with restricted ranges, sites that hold an assemblage of species restricted to a biome, and sites where birds concentrate in significant numbers when breeding, wintering or migrating.

Kimiwan Lake was identified as an IBA based on surveys which showed significant numbers of migrating pectoral sandpipers (5%-28% of the world population) and long-billed dowitchers (12%-24% of the world population) used the lake as a migration stopover. Additionally regular counts of waterfowl have shown that more than 26,000 birds each day during migration periods and 5,000 to 20,000 birds per day during molting periods. The lake also supports larger numbers of Franklin's gulls (over 5000 non-breeding gulls) annually.

The Kimiwan Lake Wildlife and Preservation Society (KLWPS), a local non-profit group located in the town of McLennan identified that more current information on bird use was required in order to address habitat management issues and to provide updated information to visitors to the area. Subsequently, funding and support was received from the partners (see cover page) and the Kimiwan Lake Avian Inventory Project 2000 was initiated in May 2000. The project focused on the collection of songbird, waterfowl and shorebird data in May, June and August.

## **2 Methods**

Two songbird point-count transects, two waterfowl and shorebird transects, a waterfowl point count, and a total count of waterfowl were conducted at various areas around Kimiwan Lake. All of the counts were to be completed on a survey day. Two survey days per week were conducted during the weeks of May, June and August, 2000. Scheduled survey days were May 20-21, May 25-26, June 1-2, June 10-11, June 14-14, August 15-16, August 22-23 and August 29-30.

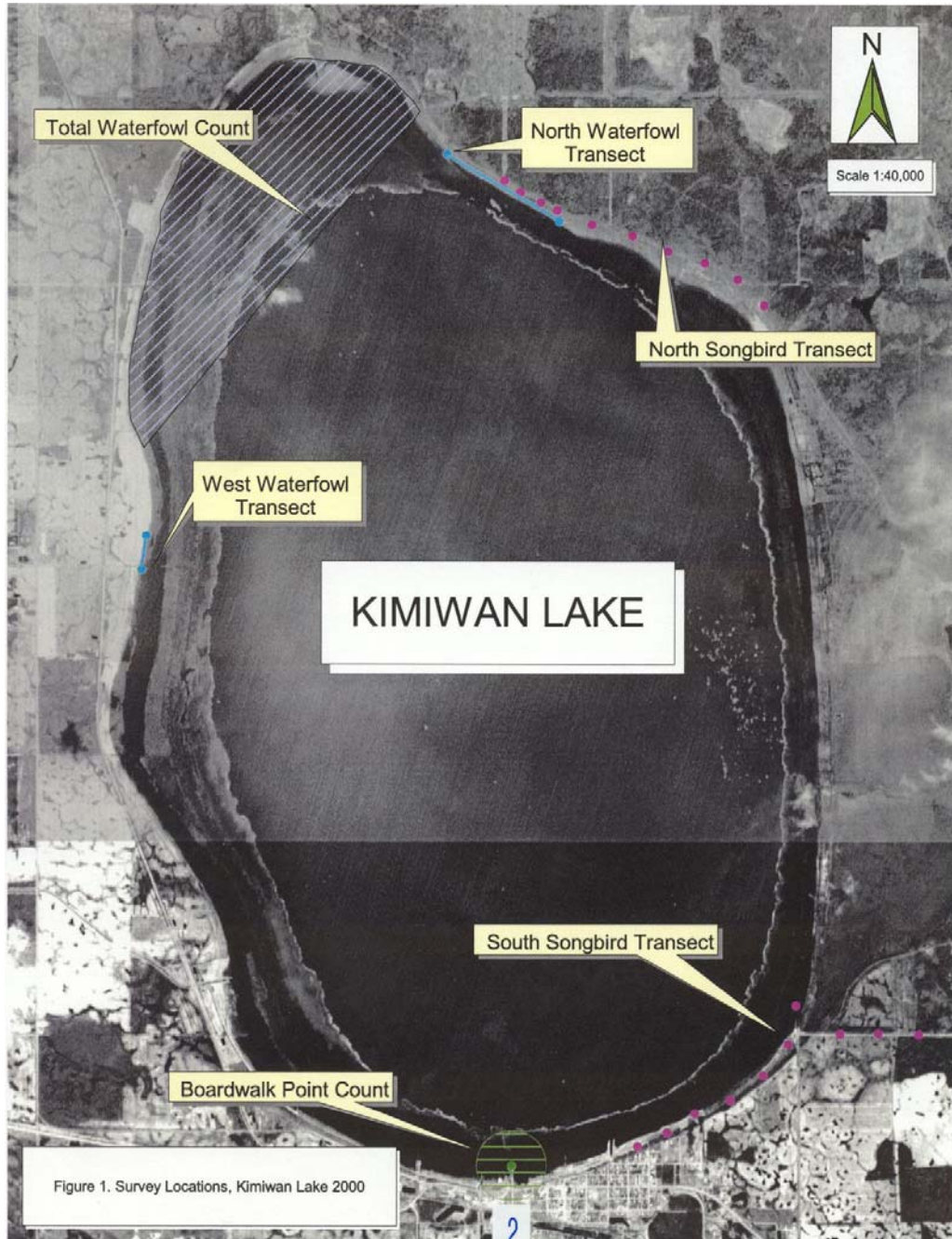
The songbird point-count transects consisted of a series of ten points spaced 300 m apart. One transect was located on the north side of the lake, and one transect was located on the south side of Kimiwan Lake (Figure 1). All birds seen or heard within 100 m of the point were recorded by species during a five minute census period. Observers used bicycles or walked to each recording point. Typically the south transect was completed first with a target start time within 30 minutes prior to sunrise. The observer would then drive to the north transect and complete the north songbird survey.

The waterfowl and shorebird transects were located on the west and northeast shores respectively (Figure 1). Birds were recorded as they were observed along an 800 m transect along the shoreline. All bird species were recorded within 20 m of the shoreline using binoculars and a 15-45X spotting scope. Both transects were covered by walking.

The total waterfowl count occurred on the north side of Kimiwan Lake (Figure 1). All waterfowl located west and north of an imaginary line from the observation point on the northeast shore to KimLake Farms silage silos on the west side of the lake were recorded.

The final survey for each day was a total count by species at the south end of the lake (Figure 1). All species within a 300 m radius from the end of the boardwalk but only on or over the water were recorded.

Percent cloud cover and wind speed (Beaufort scale) were recorded at each survey site.



### **3 Results**

#### **3.1 Songbird Transect Counts**

A total of 66 species and 2993 individuals were recorded during the songbird transect counts (Table 1). A total of 2658 individuals were identified by species (88.9%). The survey was not completed on August 29 due to inclement weather. By occurrence, the top ten most recorded species, in order from most recorded were: red-winged blackbird, yellow warbler and Canada goose (tied), least flycatcher, clay-colored sparrow, white-throated sparrow, chipping sparrow, black-capped chickadee, song sparrow, Le Conte's sparrow and American robin. Together, the top ten species account for 56.4% of the recorded occurrences. The individuals recorded were not separated by sex.

Most of the species recorded were to be expected at Kimiwan Lake. Recorded individuals in May and June averaged 228.7/survey day and in August averaged 123.67/survey day. Recorded individuals increased throughout the survey days and peaked on June 1. The low counts on June 10/11 are attributed to inclement weather. In August, recorded individuals decreased steadily throughout the month.

Total counts of individuals were higher on the south transect (N=1615) than on the north transect (N=1378). Species richness was very consistent among stations and ranged from 23 to 40 species recorded/station. An average of 28.2 species/station was recorded on the south transect and an average of 29.5 species/station was recorded on the north transect. The data was not analyzed for statistical differences.

A summary of the point count surveys is shown below. For comparative purposes, both the south and north transect data were lumped.

Table 1 - Songbird point count summary, Kimiwan Lake, 2000.

Species	Date													Total
	5/20	5/21	5/25	5/26	6/1	6/2	6/10	6/11	6/14	6/15	8/15	8/16	8/22	
Alder Flycatcher					2	6	2	2	14	17				43
American Crow	1	1		2	7	1			1	2			1	16
American Redstart		1							3	4				8
American Robin	3	16	7	12	9	8	1	1	2	10	8	3	4	84
Bald Eagle			1		1	1			2	2	6	5	4	22
Baltimore Oriole				1	1	2								4
Black & White Warbler			15	2		2			1					20
Black Tern									4					4
Black-bellied Plover									1	2				3
Black-billed Magpie			1		1				2		10		3	17
Black-capped Chickadee		5	4	4			3	1	2		35	30	31	115
Blue Jay	1	2	1	1	1						3	1	2	12
Blue-headed Vireo		1	1	1		1								4
Blue-wing Teal					3				10					13
Boreal Chickadee		1	1	1	1	1						5		10
Brown-headed Cowbird			7	2	13	1	4	4	6					37
Canada Goose			2	2	107	4	1				26	22	7	171
Canada Warbler						3								3
Cedar Waxwing					3	1					8			12
Chipping Sparrow	8	6	17	15	6	11			13	13	20	12	4	125
Clay-colored Sparrow	4	20	26	27	18	14	7	8	12	10	1		2	149
Common									2					2

Species	Date													Total
Grackle														
Common Raven		1	2			2							4	9
Common Snipe		3				3			2					8
Common Yellowthroat			3		8	9	1		12	12				45
Eared Grebe				1										1
Franklin's Gull									27					27
House Wren		1	1	1	1	1								5
Killdeer	1	8	2	7	1				3	1	5	2	1	31
Le Conte's Sparrow	8	10	7	7	11	10	7	9	9	7				85
Least Flycatcher	4	9	22	31	25	24			19	21				155
Lesser Yellowlegs									1		4	5	3	13
Lincoln's Sparrow	3	4	5	5	1	8	2	3	8	10	2	2	3	56
Magnolia Warbler			3	3										6
Mallard		2		1	2				15		4	2		26
Marsh Wren			1		2	1		1	3	6				14
Mourning Warbler									4	1				5
Northern Flicker	1	2	2	1	5	4	1		1	1		1		19
Northern Harrier											2	3		5
Northern Redstart										3				3
Northern Waterthrush					1	1								2
Olive-sided Flycatcher									2	4				6
Ovenbird	2	1	5	5	5	5	2	2	4	3				34
Philadelphia Vireo									1	1				2
Red-breasted Nuthatch	3	3	1	3	3	4				3	8	5	4	37
Red-eyed Vireo			1	3	11	7	3	3	21	18				67
Red-tailed Hawk		3	2			1	1				3	2	1	13
Red-winged	11	18	36	32	25	13	11	12	28	20				206

Species	Date													Total
Blackbird														
Ring-billed Gull									2					2
Rose-breasted Grosbeak	3	3	5	6	5	5			1	2				30
Ruby-crowned Kinglet		2	2											4
Savannah Sparrow	1	6	3	14	2	2			2	3				33
Song Sparrow	3	8	13	5	19	16	3	3	11	11	2		3	97
Sora	2	10	13	6	4	5	2	3	12	15				72
Swainson's Thrush					3				3					6
Swamp Sparrow			1	11	5	7	3	8	8	8	1	1	1	54
Tennessee Warbler	4	26	9	35		1			1	2				78
Tree Swallow		1	3	3		5	2	2	6	1		2	2	27
Unidentified Gull						16								16
Unidentified Songbird					5	3			1		21			30
Unidentified Waterfowl					45									45
Unidentified Yellowlegs									1					1
Unknown Songbird	2													2
Vesper Sparrow									1					1
Warbling Vireo									4	1				5
Western Tanager		8	9	6	2	10			1	1				37
White-throated Sparrow	12	22	18	20	17	20		2	12	13	1	1	3	141
Yellow Warbler	6	14	23	25	25	18	3	5	22	27	2	1		171
Yellow-headed Blackbird	1	3	6	3	7	3			4					27
Yellow-rumped Warbler			3	5	2				2	2	7		4	25
<b>Grand Total</b>	<b>84</b>	<b>221</b>	<b>284</b>	<b>309</b>	<b>415</b>	<b>260</b>	<b>59</b>	<b>69</b>	<b>329</b>	<b>257</b>	<b>179</b>	<b>105</b>	<b>87</b>	<b>2658</b>

### 3.2 Waterfowl Transect Counts

#### West Waterfowl Transect

A total of 26 species and 3319 individuals were recorded on the west transect surveys (Table 2). The survey was not completed on June 10 due to inclement weather. The top ten most abundant recorded species were: unidentified dabbling duck, northern shoveller, blue-winged teal, mallard, unidentified sandpiper, unidentified gull, northern pintail, lesser yellowlegs, green-winged teal and black-bellied plover. An average of 221.3 individuals/survey day were recorded on the transect over the survey period. Counts/survey day ranged from 66 to 482 and were higher in May and June (N=235) than in August (N=200.7). Total individuals recorded was highest on June 15. The individuals recorded were not separated by sex.

Table 2 - West waterfowl transect summary, Kimiwan Lake, 2000.

Species	DATE															TOTAL
	05/20	05/21	05/25	05/26	06/01	06/02	06/11	06/14	06/15	08/15	08/16	08/22	08/23	08/29	08/30	
American Avocet		6			7	4	2	2	5	1						27
American Widgeon						6	17		6							29
Black-bellied Plover	5			22		9				17	25					78
Blue-wing Teal	55	51	30	43		136	34	22	42	9		5			12	439
Bufflehead	6		15	45					2							68
Canada Goose														34	18	52
Canvasback		8														8
Cinnamon Teal		1														1
Common Goldeneye		37	3	2												42
Eared Grebe	3		2			5										10
Gadwall	2								11			10	7		6	36
Greater Yellowlegs														2	1	3
Green-wing Teal	5	3	7			5	13	2	57							92
Killdeer						6		7	1	1	10		6	2	5	38
Least Sandpiper												30			35	65
Lesser Yellowlegs								1		15	13	18	21		27	95
Long-billed Dowitcher		39		33												72
Mallard	30	45	31	29		92	7	44	33				12		2	325
Marbled Godwit						12	1	2								15
Northern Pintail	9		39	10		23	16		7	3		2				109
Northern Shoveler	63	54	57	59	59	65	65		129	6						557
Pectoral Sandpiper														19		19
Red-necked Phalarope									2							2
Ruddy Duck									3							3
Semipalmated Plover		12								3		4	3			22

Sora						1			1							2
Unidentified Dabbling		11								90	150	112	75	150	90	678
Unidentified Diver									47							47
Unidentified Gull									136							136
Unidentified Sandpiper	21		31	44							65		38		50	249
<b>Grand Total</b>	<b>199</b>	<b>267</b>	<b>215</b>	<b>287</b>	<b>66</b>	<b>364</b>	<b>155</b>	<b>80</b>	<b>482</b>	<b>145</b>	<b>263</b>	<b>181</b>	<b>162</b>	<b>207</b>	<b>246</b>	<b>3319</b>

### North Waterfowl Transect

A total of 18 species and 1104 individuals were recorded on the north transect surveys (Table 3). The survey was not completed on June 10-11 and August 29 due to inclement weather. The top ten most abundant recorded species were: unidentified dabbling duck, Canada goose, lesser yellowlegs, unidentified sandpiper, blue-winged teal, three species tied (gadwall, unidentified diving duck, pectoral sandpiper), unidentified goldeneye, American coot, northern shoveller and eared grebe. An average of 84.9 individuals/survey day were recorded on the transect over the survey period. Counts/survey day ranged from 21 to 242 individuals and were higher in August (N=147.4) than in May and June (N=45.9). Total individuals recorded was highest on August 30. The individuals recorded were not separated by sex.

Table 3 - North waterfowl transect summary, Kimiwan Lake, 2000.

SPECIES	DATE														Total
	05/20	05/21	05/25	05/26	06/01	06/02	06/14	06/15	08/15	08/16	08/22	08/23	08/30		
American Avocet		1													1
American Coot		1	4		13	7									25
American Widgeon							8					7			15
Black-bellied Plover		1													1
Blue-wing Teal		7	11	12	4		34	12	9		2	3			94
Bufflehead			2		8	5	2	4							21
Canada Goose	4		1		2	1		2	26	32				48	116
Eared Grebe		6	9	4											19
Gadwall				2			2		17	5	1	6			33
Greater Yellowlegs											1				1
Green-wing Teal	2						1	7				3			13
Killdeer	3				1	3	5	1				1			14
Lesser Yellowlegs									15	20	31	23	25		114
Mallard							3	4				14			21
Northern Shoveler	2	1	1				9	3	8						24
Pectoral Sandpiper													33		33
Redhead		2	2	2											6
Semipalmated Plover		1													1
Unidentified Dabbling									65	36	90	80	106		377
Unidentified Diver	33														33
Unidentified					15	15									30

Goldeneye															
Unidentified Sandpiper		1		32	26	16								30	105
Unidentified Yellowlegs			6	1											7
<b>Grand Total</b>	<b>44</b>	<b>21</b>	<b>36</b>	<b>53</b>	<b>69</b>	<b>47</b>	<b>64</b>	<b>33</b>	<b>140</b>	<b>93</b>	<b>125</b>	<b>137</b>	<b>242</b>	<b>1104</b>	

### 3.3 Waterfowl Point Count

A total of 35 species and 21242 individuals were recorded on the boardwalk surveys (Table 4). The survey was not completed on June 10 and August 29 due to inclement weather. The ten most abundant species recorded were unidentified dabbling duck, American coot, northern shoveller, blue-winged teal, mallard, eared grebe, bufflehead, lesser yellowlegs, gadwall and American wigeon. Total individuals recorded ranged from 170 to 4660 and peaked on August 15. The average number of recorded individuals/survey day in May and June was 410.9 and was 2992.5 in August. Species observed/survey day ranged from 8 to 24 and was greatest on May 21. A total of 16.8 species/survey day was recorded in May and June and averaged 9.8 species/survey day in August. The individuals recorded were not separated by sex.

Table 4 - Waterfowl point count summary, Kimiwan Lake, 2000.

SPECIES	DATE															TOTAL
	05/21	05/25	05/26	06/01	06/02	06/11	06/14	06/15	08/15	08/16	08/22	08/23	08/29	08/30		
American Avocet	4	10	14	23	33	6	6	10							106	
American Coot	2							3	350	342	427	350		300	1774	
American Golden Plover					1										1	
American Widgeon	2	3	11	9	7	6	21	2	55				2		118	
Baird's Sandpiper													2		2	
Barrow's Goldeneye								9							9	
Blue-winged Teal	97	77	69	72	78	118	38	6	32	1					588	
Bufflehead	42	45	31	10	20	5	12	15				8	7	1	196	
Canada Goose			1									15	16	50	82	
Canvasback	8					1	9	1		3	2	2	2	2	30	
Cinnamon Teal	1			1							1				3	
Common Goldeneye	37	19	2	4			7	1							70	
Double-crested Cormorant													1		1	
Eared Grebe	75	25	34		46	18	14	15			1				228	
Gadwall	27	25		7	7	18	12	24	30	1					151	
Greater Yellowlegs									54	2		3			59	
Green-winged Teal	5	3	5	8	8	5	3		10		7	5			59	
Killdeer				1					7	18	6	3	6	28	69	
Least Sandpiper													3	45	48	
Lesser Scaup	36	1			2		12			1					52	
Lesser Yellowlegs	3	3							33	26	9	59	24	24	181	
Long-billed	7	5	10	48						3		2			75	

Dowitcher															
Mallard	31	71	35	48	47	49	27	6		1					315
Northern Pintail	14	25	11	1	9	15	14		5						94
Northern Shoveler	49	105	75	83	227	152	126	73	68						958
Oldsquaw	50	9	2												61
Pectoral Sandpiper												1	6	20	27
Redhead	23	2	9		5	5	25	5							74
Red-necked Phalarope		1	5	7	18		0								31
Ruddy Duck	20	10	31	2	1										64
Semipalmated Plover	7	4							15	10			2		38
Solitary Sandpiper									1						1
Sora	2														2
Spotted Sandpiper	2	1													3
Unidentified Dabbling							20		4000	4000		2600	2100	2650	15370
Unidentified Diver							50								50
Unidentified Sandpiper		42	35	35									95		207
Unidentified Yellowlegs		2													2
Wilson's Phalarope	1	6	3	18	15										43
<b>Grand Total</b>	<b>545</b>	<b>494</b>	<b>383</b>	<b>377</b>	<b>524</b>	<b>398</b>	<b>396</b>	<b>170</b>	<b>4660</b>	<b>4408</b>	<b>453</b>	<b>3048</b>	<b>2266</b>	<b>3120</b>	<b>21242</b>

### 3.4 Waterfowl Total Counts

A total of 25545 waterfowl were recorded throughout the survey. Total numbers of waterfowl observed/survey day ranged from 332 to 3742 and was greatest on August 23. The survey was not completed on June 10-11 and August 29 due to inclement weather. The average number of waterfowl/survey day in May and June was 1434.3 and 2814.2 in August. The individuals recorded were not separated by sex. (Table 5)

Table 5 - Summary of total waterfowl count, Kimiwan Lake, 2000

Date	Total	Date	Total
May 20	332	August 22	2332
May 21	1220	August 23	3724
May 25	1704	August 29	0
May 26	1925	August 30	2650
June 1	1638		
June 2	2323		
June 10	0		
June 11	0		
June 14	904		
June 15	1428		
August 15	2249		
August 16	3116		

## 4 DISCUSSION

### Songbird Point Counts

A total of 66 species were recorded during relatively short survey periods on few survey days indicating that species diversity is quite high on the uplands surrounding Kimiwan Lake. All species recorded during the study were expected to occur at Kimiwan Lake. The high numbers of recorded sparrows (9 species and 28.7% of total recorded individuals) is attributed to the predominance of shrubby willow and open field habitat associated with the transect areas. The average number of individuals recorded/survey day in May and June was higher than in August. Lack of singing and non-breeding plumage undoubtedly contributed to the lower counts in August.

While both species richness and total recorded individuals was higher on the north transect than the south transect, the data were not analyzed for statistical differences. The north transect was immediately adjacent to mixedwood boreal forest. Much of the land located between the north transect and Kimiwan Lake was cultivated at the time of the survey. During the survey period there was vehicle traffic along the road used to complete the north transect survey and vehicles were observed during survey periods. This may have contributed to lower total counts and less than optimal counting conditions along the north transect in some instances.

The south transect was located north of residential development within the Town of McLennan and ran east away from the town along a road bordered by a mix of annually cropped fields and cattle pastures. There wasn't any vehicle traffic along the south transect. The lands located between the south transect and Kimiwan Lake were, for the most part, completely vegetated but had various cover types and had been hayed or grazed in 1999.

### Waterfowl Transects

Both species richness and average number of individuals recorded/survey day were higher on the west transect than on the north transect. In total there were over three times as many individuals recorded on the west transect than on the north transect. Also, in contrast, the highest number of individuals recorded on the west transect was on June 15 and on August 30 on the north transect.

The west shore habitat within the lake is diverse, consisting of broken mats of cattail and other emergent vegetation. The lake bed and nearshore uplands are cultivated to the waters edge. A ring of tall willows separates the water from the uplands along most of the west shore. The habitat adjacent to the north transect is more uniform consisting of heavily grazed shorelines, an emergent bed of bullrush and no shrubs or trees along the shoreline. It is likely these differences in habitat quality which influence the distribution and abundance of waterfowl along the two transects. Agency staff working on the avian botulism cleanups in 1998 and 1999 also recorded higher abundance of waterfowl on the west shore than on the northeast areas of the lake (Arbuckle et al. 1999, Tiege 1999). Transect surveys in 1986 along the south shore also showed variable and clumped distribution among waterfowl species and the variable distribution was attributed to different water depths and variable food resources (MacDonald 1987).

Unique observations from MacDonald's survey in 1986 included regular sightings of American avocets along the south shore. Kimiwan Lake was considered outside of normal American avocet range in 1986. In 2000, American avocets were recorded in high numbers during the waterfowl point counts and were recorded in

moderate numbers along the west waterfowl transect in May and June and on August 15. None were recorded after August 15 in 2000. MacDonald also recorded sightings of marbled godwits which were considered outside of normal range. Marbled godwits (N= 15) were observed in June over a two week period on the west transect. One willet was also observed in 1987 however none were observed during the survey in 2000.

### Waterfowl Point Count

The average number of individuals recorded/survey day was more than seven times higher in August than in May and June, however species diversity was higher in May and June than in August. These results indicate that Kimiwan Lake is an important migration stopover in both spring and fall and that overall abundance in staging waterfowl is highest during the fall.

Unique observations from MacDonald's survey in 1986 included cinnamon teal, which at the time were considered outside of normal range. Cinnamon teal were observed during the waterfowl point count in 2000, although in low numbers. They were not observed on the west and north transect surveys in 2000. Surveys in May of 1986 also showed that of 5691 ducks observed along a transect line along the south shore, 21.1% were diving ducks and 78.9% were dabbling ducks (Macdonald 1987).

Prior to MacDonald's survey work, only one other spring waterfowl survey was conducted (1979 Ducks Unlimited Canada breeding pair survey). Highlights of that survey was an estimate of 652 breeding pairs of ducks of which 40% were dabbling ducks and 60% were diving ducks. The 2000 point count showed that only 3.3% of the total ducks recorded were diving ducks and 96.7% were dabbling ducks. Shorebirds made up only 2.4% of the total individuals recorded.

Waterfowl collected during the 1998 and 1999 avian botulism outbreaks were identified by species. In 1998, 7% of the collected waterfowl were diving ducks and 78% were dabbling ducks (Arbuckle et al. 1999). In 1999 less than 1% of the carcasses collected were diving ducks (Tiege 1999).

There appears to have been a fairly steady decline in the relative abundance of diving ducks at Kimiwan Lake in the last 22 years. It also appears that American avocets have been resident breeders at the lake for several years, likely going back prior to 1986. MacDonald also recorded white-winged scoters and common loons at the lake in 1986, however none were observed during the survey in 2000.

### Avian Diversity

In total, there were 95 species recorded in 2000 compared to 82 recorded by MacDonald (1987). Comparing the surveys completed in 1986 and 2000, there were 24 species recorded in 1986 that were not recorded in 2000. However, there were 35 species recorded in 2000 that were not observed in 1986. As the study designs in 1986 and 2000 were quite different, direct comparisons of avian diversity and avian density can not be made. Table 6 shows the species observed at Kimiwan Lake in 1986 and 2000.

Table 6 - Avian species recorded in 1986\* and 2000 at Kimiwan Lake

<b>Species</b>	<b>Year Recorded</b>	<b>Species</b>	<b>Year Recorded</b>
Common loon	1986	Wilson's phalarope	Both
Horned grebe	1986	Common snipe	Both
Eared grebe	Both	Pectoral sandpiper	Both
Tundra swan	1986	Bonaparte's gull	1986
Canada goose	Both	Herring gull	1986
Mallard	Both	Franklin's gull	Both
Northern pintail	Both	Ring-billed gull	Both
Gadwall	Both	Black tern	Both
American widgeon	Both	Short-eared owl	1986
Northern shoveller	Both	Yellow-bellied sapsucker	1986
Blue-winged teal	Both	Common flicker	1986
Cinnamon teal	Both	Eastern kingbird	1986
Green-winged teal	Both	Alder flycatcher	Both
Redhead	Both	Least flycatcher	Both
Canvasback	Both	Olive-sided flycatcher	2000
Ring-necked duck	1986	Western wood-peewee	1986
Greater scaup	1986	Tree swallow	Both
Lesser scaup	Both	Barn swallow	1986
Common goldeneye	Both	American crow	Both
Barrow's goldeneye	2000	Common raven	Both
Bufflehead	Both	Black-billed magpie	2000
White-winged scoter	1986	Blue jay	2000
Ruddy duck	Both	House wren	2000
Oldsquaw	2000	Marsh wren	2000
Double-crested cormorant	2000	Black-capped chickadee	Both
Northern harrier	Both	Boreal chickadee	2000
Rough-legged hawk	1986	Marsh wren	Both
Red-tailed hawk	Both	American robin	Both
Bald eagle	Both	Ovenbird	2000
Merlin	1986	Warbling vireo	2000
American kestrel	1986	Philadelphia vireo	2000
American bittern	1986	Red-eyed vireo	2000
Sandhill crane	1986	Blue-headed vireo	2000
Sora	Both	Rose-breasted grosbeak	2000
American coot	Both	Swainson's thrush	Both
American avocet	Both	Ruby-crowned kinglet	Both
Killdeer	Both	European starling	1986
Semipalmated plover	Both	Yellow warbler	Both
Marbled godwit	Both	American redstart	Both
Greater yellowlegs	Both	Northern redstart	2000
Lesser Yellowlegs	Both	Northern waterthrush	2000
Solitary sandpiper	Both	Yellow-rumped warbler	Both

Species	Year Recorded	Species	Year Recorded
Stilt sandpiper	1986	Tennessee Warbler	2000
Least sandpiper	2000	Magnolia warbler	2000
Spotted sandpiper	2000	Mourning warbler	2000
Baird's sandpiper	2000	Canada warbler	2000
Pectoral sandpiper	2000	Common yellowthroat	Both
Willet	1986	Western tanager	2000
Short-billed dowitcher	1986	Red-winged blackbird	Both
Long-billed dowitcher	Both	Yellow-headed blackbird	Both
American golden plover	2000	Brown-headed cowbird	Both
Black-bellied plover	2000	Brewer's blackbird	1986
Red-necked phalarope	Both	Common grackle	2000
Northern flicker	2000	Song sparrow	Both
White-throated sparrow	Both	Swamp sparrow	2000
Savannah sparrow	Both	LeConte's sparrow	2000
Lincoln's sparrow	Both	Red-breasted nuthatch	2000
Chipping sparrow	Both	Baltimore Oriole	2000
Vesper sparrow	Both	Cedar waxwing	2000
Clay-colored sparrow	Both		

\*MacDonald 1987

It was not surprising to find a greater diversity of species during this survey as the sampling effort and sampling duration was greater than in 1987. Additional sampling effort in the future will likely result in additional species recordings.

#### Total Waterfowl Count

MacDonald (1987) recorded total waterfowl abundance at Kimiwan Lake in May and June. Daily counts ranged from 300 to 3300 and averaged 1558. Recorded total waterfowl abundance in May and June 2000 in a total area of approximately 364 ha (900 ac or approximately 10% of the total lake area) ranged from 332 to 2323 and averaged 1524. While waterfowl use and distribution at Kimiwan Lake is somewhat variable, crude extrapolation of the 2000 total counts results in total population estimates for the lake averaging 15240 birds/survey day in May and June, assuming that the distribution of waterfowl on the rest of the lake was similar to that on the north end. This is considerably higher than the total lake estimates found by MacDonald in 1986. Two other significant staging wetlands in the area, Lac Magloire and Rat Lake, were completely dry during 2000 and may have resulted in higher waterfowl use of Kimiwan Lake. The high numbers of waterfowl recorded in 2000 at Kimiwan Lake reinforces its regional and local importance as a staging wetland.

## **5 RECOMMENDATIONS**

1. Periodic avian inventories should be conducted on Kimiwan Lake and should include both waterfowl and songbird inventory components. It would be interesting to conduct tundra swan counts in October.
2. Periodic aerial waterfowl surveys would likely collect the most accurate data on waterfowl use of the whole lake in the most efficient manner.
3. Future surveys should qualify habitat types at point count locations.
4. The accuracy of songbird point counts could be improved by conducting the counts during the breeding season only.

## References

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## Appendix 1

### Songbird Point Count Data, Kimiwan Lake, 2000

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
05/20/2000	1	American Robin	1	6	70
05/20/2000	1	Clay-colored Sparrow	1	6	70
05/20/2000	1	Le Conte's Sparrow	1	6	70
05/20/2000	1	Red-breasted Nuthatch	1	6	70
05/20/2000	1	Red-winged Blackbird	1	6	70
05/20/2000	1	Song Sparrow	1	6	70
05/20/2000	1	Sora	1	6	70
05/20/2000	1	Tennessee Warbler	1	6	70
05/20/2000	2	Clay-colored Sparrow	1	6	60
05/20/2000	2	Le Conte's Sparrow	1	6	60
05/20/2000	2	Red-winged Blackbird	2	6	60
05/20/2000	2	Song Sparrow	1	6	60
05/20/2000	2	Sora	1	6	60
05/20/2000	2	Tennessee Warbler	1	6	60
05/20/2000	2	Lincoln's Sparrow	1	6	60
05/20/2000	2	Yellow Warbler	2	6	60
05/20/2000	3	Clay-colored Sparrow	1	6	65
05/20/2000	3	Red-breasted Nuthatch	1	6	65
05/20/2000	3	Red-winged Blackbird	1	6	65
05/20/2000	3	Yellow Warbler	1	6	65
05/20/2000	3	Yellow-headed Blackbird	1	6	65
05/20/2000	4	American Crow	1	6	70
05/20/2000	4	Le Conte's Sparrow	1	6	70
05/20/2000	4	Red-winged Blackbird	1	6	70
05/20/2000	5	Le Conte's Sparrow	3	6	70
05/20/2000	5	Red-winged Blackbird	1	6	70
05/20/2000	6	Le Conte's Sparrow	1	6	40
05/20/2000	6	Red-winged Blackbird	1	6	40
05/20/2000	7	Le Conte's Sparrow	1	6	40
05/20/2000	7	Red-winged Blackbird	2	6	40
05/20/2000	8	American Robin	1	6	30
05/20/2000	8	Blue Jay	1	6	30
05/20/2000	8	Chipping Sparrow	1	6	30
05/20/2000	8	Northern Flicker	1	6	30
05/20/2000	8	Tennessee Warbler	1	6	30
05/20/2000	8	Lincoln's Sparrow	1	6	30
05/20/2000	8	Yellow Warbler	1	6	30
05/20/2000	9	Chipping Sparrow	1	6	25
05/20/2000	9	Red-breasted Nuthatch	1	6	25
05/20/2000	9	Rose-breasted Grosbeak	1	6	25
05/20/2000	9	Savannah Sparrow	1	6	25
05/20/2000	10	Killdeer	1	6	20
05/20/2000	10	Rose-breasted Grosbeak	1	6	20
05/20/2000	11	Ovenbird	1	6	5
05/20/2000	11	White-throated Sparrow	3	6	5
05/20/2000	12	Rose-breasted Grosbeak	1	6	5
05/20/2000	12	White-throated Sparrow	1	6	5
05/20/2000	13	American Robin	1	6	10
05/20/2000	13	Chipping Sparrow	1	6	10
05/20/2000	13	Ovenbird	1	6	10

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
05/20/2000	13	White-throated Sparrow	2	6	10
05/20/2000	14	Unknown Songbird	2	6	10
05/20/2000	15	Least Flycatcher	1	6	10
05/20/2000	15	White-throated Sparrow	1	6	10
05/20/2000	16	Chipping Sparrow	1	6	15
05/20/2000	16	Clay-colored Sparrow	1	6	15
05/20/2000	16	Tennessee Warbler	1	6	15
05/20/2000	16	White-throated Sparrow	1	6	15
05/20/2000	17	Chipping Sparrow	1	6	15
05/20/2000	17	Lincoln's Sparrow	1	6	15
05/20/2000	17	White-throated Sparrow	1	6	15
05/20/2000	18	Chipping Sparrow	1	5	15
05/20/2000	18	Least Flycatcher	2	5	15
05/20/2000	18	Song Sparrow	1	5	15
05/20/2000	18	White-throated Sparrow	1	6	15
05/20/2000	18	Yellow Warbler	1	5	15
05/20/2000	19	Chipping Sparrow	2	6	15
05/20/2000	19	White-throated Sparrow	1	6	15
05/20/2000	20	Least Flycatcher	1	6	10
05/20/2000	20	Red-winged Blackbird	2	6	10
05/20/2000	20	White-throated Sparrow	1	6	10
05/20/2000	20	Yellow Warbler	1	6	10
05/21/2000	1	American Robin	1	2	100
05/21/2000	1	Clay-colored Sparrow	2	2	100
05/21/2000	1	Le Conte's Sparrow	3	2	100
05/21/2000	1	Red-winged Blackbird	1	2	100
05/21/2000	1	Sora	1	2	100
05/21/2000	1	Yellow Warbler	1	2	100
05/21/2000	2	American Robin	1	3	100
05/21/2000	2	Clay-colored Sparrow	3	3	100
05/21/2000	2	Le Conte's Sparrow	1	3	100
05/21/2000	2	Lincoln's Sparrow	2	3	100
05/21/2000	2	Red-winged Blackbird	3	3	100
05/21/2000	2	Tree Swallow	1	3	100
05/21/2000	2	White-throated Sparrow	1	3	100
05/21/2000	2	Yellow Warbler	2	3	100
05/21/2000	3	American Robin	1	2	100
05/21/2000	3	Black-capped Chickadee	2	2	100
05/21/2000	3	Clay-colored Sparrow	3	2	100
05/21/2000	3	Lincoln's Sparrow	1	2	100
05/21/2000	3	Red-breasted Nuthatch	1	2	100
05/21/2000	3	Song Sparrow	1	2	100
05/21/2000	3	Sora	1	2	100
05/21/2000	3	Tennessee Warbler	1	2	100
05/21/2000	3	White-throated Sparrow	1	2	100
05/21/2000	3	Yellow Warbler	2	2	100
05/21/2000	4	Black-capped Chickadee	1	2	100
05/21/2000	4	Clay-colored Sparrow	3	2	100
05/21/2000	4	Le Conte's Sparrow	2	2	100
05/21/2000	4	Red-winged Blackbird	3	2	100

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
05/21/2000	4	Rose-breasted Grosbeak	1	2	100
05/21/2000	4	Sora	2	2	100
05/21/2000	4	White-throated Sparrow	2	2	100
05/21/2000	5	Red-winged Blackbird	3	2	100
05/21/2000	5	Savannah Sparrow	2	2	100
05/21/2000	5	Sora	1	2	100
05/21/2000	5	Lincoln's Sparrow	1	2	100
05/21/2000	6	Yellow Warbler	1	2	100
05/21/2000	6	Chipping Sparrow	1	2	100
05/21/2000	6	Common Snipe	1	2	100
05/21/2000	6	Le Conte's Sparrow	2	2	100
05/21/2000	6	Tennessee Warbler	1	2	100
05/21/2000	6	Yellow Warbler	2	2	100
05/21/2000	7	Chipping Sparrow	1	3	100
05/21/2000	7	Common Snipe	1	3	100
05/21/2000	7	Le Conte's Sparrow	2	3	100
05/21/2000	7	Red-winged Blackbird	6	3	100
05/21/2000	7	Savannah Sparrow	1	3	100
05/21/2000	7	Sora	2	3	100
05/21/2000	7	White-throated Sparrow	1	3	100
05/21/2000	8	Chipping Sparrow	2	3	100
05/21/2000	8	Mallard	1	3	100
05/21/2000	8	Red-breasted Nuthatch	1	3	100
05/21/2000	8	Savannah Sparrow	1	3	100
05/21/2000	8	Song Sparrow	1	3	100
05/21/2000	9	American Robin	1	3	100
05/21/2000	9	Blue Jay	1	3	100
05/21/2000	9	Chipping Sparrow	1	3	100
05/21/2000	9	Savannah Sparrow	2	3	100
05/21/2000	9	Song Sparrow	1	3	100
05/21/2000	10	American Robin	3	2	100
05/21/2000	10	Blue Jay	1	2	100
05/21/2000	10	Boreal Chickadee	1	2	100
05/21/2000	10	House Wren	1	2	100
05/21/2000	10	Killdeer	7	2	100
05/21/2000	10	Red-tailed Hawk	1	2	100
05/21/2000	10	Ruby-crowned Kinglet	1	2	100
05/21/2000	10	Tennessee Warbler	1	2	100
05/21/2000	10	White-throated Sparrow	1	2	100
05/21/2000	11	American Robin	1	1	100
05/21/2000	11	Least Flycatcher	2	1	100
05/21/2000	11	Northern Flicker	1	1	100
05/21/2000	11	Rose-breasted Grosbeak	1	1	100
05/21/2000	11	Tennessee Warbler	2	1	100
05/21/2000	11	White-throated Sparrow	3	1	100
05/21/2000	12	American Robin	2	1	100
05/21/2000	12	Clay-colored Sparrow	1	1	100
05/21/2000	12	Killdeer	1	1	100
05/21/2000	12	Least Flycatcher	2	1	100
05/21/2000	12	Red-winged Blackbird	2	1	100

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
05/21/2000	12	Song Sparrow	1	1	100
05/21/2000	12	Tennessee Warbler	4	1	100
05/21/2000	12	Western Tanager	1	1	100
05/21/2000	12	White-throated Sparrow	2	1	100
05/21/2000	13	American Robin	2	1	100
05/21/2000	13	Blue-headed Vireo	1	1	100
05/21/2000	13	Clay-colored Sparrow	4	1	100
05/21/2000	13	Tennessee Warbler	3	1	100
05/21/2000	13	Western Tanager	1	1	100
05/21/2000	13	White-throated Sparrow	3	1	100
05/21/2000	13	Yellow-headed Blackbird	1	1	100
05/21/2000	14	American Robin	1	1	100
05/21/2000	14	Clay-colored Sparrow	1	1	100
05/21/2000	14	Least Flycatcher	1	1	100
05/21/2000	14	Song Sparrow	1	1	100
05/21/2000	14	Tennessee Warbler	1	1	100
05/21/2000	14	Western Tanager	1	1	100
05/21/2000	14	White-throated Sparrow	1	1	100
05/21/2000	14	Yellow Warbler	1	1	100
05/21/2000	15	American Robin	1	1	100
05/21/2000	15	Clay-colored Sparrow	1	1	100
05/21/2000	15	Red-breasted Nuthatch	1	1	100
05/21/2000	15	Red-tailed Hawk	1	1	100
05/21/2000	15	Rose-breasted Grosbeak	1	1	100
05/21/2000	15	Song Sparrow	1	1	100
05/21/2000	15	Tennessee Warbler	4	1	100
05/21/2000	15	Western Tanager	2	1	100
05/21/2000	15	White-throated Sparrow	2	1	100
05/21/2000	15	Yellow Warbler	2	1	100
05/21/2000	16	Clay-colored Sparrow	2	2	100
05/21/2000	16	Least Flycatcher	2	2	100
05/21/2000	16	Ovenbird	1	2	100
05/21/2000	16	Red-tailed Hawk	1	2	100
05/21/2000	16	Song Sparrow	1	2	100
05/21/2000	16	Tennessee Warbler	2	2	100
05/21/2000	16	White-throated Sparrow	1	2	100
05/21/2000	16	Yellow Warbler	1	2	100
05/21/2000	17	Black-capped Chickadee	1	1	100
05/21/2000	17	Least Flycatcher	1	1	100
05/21/2000	17	Sora	1	1	100
05/21/2000	17	Tennessee Warbler	2	1	100
05/21/2000	17	Western Tanager	2	1	100
05/21/2000	17	White-throated Sparrow	2	1	100
05/21/2000	17	Yellow Warbler	1	1	100
05/21/2000	17	Yellow-headed Blackbird	2	1	100
05/21/2000	18	Black-capped Chickadee	1	1	100
05/21/2000	18	Chipping Sparrow	1	1	100
05/21/2000	18	Common Snipe	1	1	100
05/21/2000	18	Least Flycatcher	1	1	100
05/21/2000	18	American Redstart	1	1	100

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
05/21/2000	18	Common Raven	1	1	100
05/21/2000	18	Tennessee Warbler	1	1	100
05/21/2000	18	White-throated Sparrow	1	1	100
05/21/2000	18	Yellow Warbler	1	1	100
05/21/2000	19	American Crow	1	1	100
05/21/2000	19	American Robin	2	1	100
05/21/2000	19	Mallard	1	1	100
05/21/2000	19	Northern Flicker	1	1	100
05/21/2000	19	Ruby-crowned Kinglet	1	1	100
05/21/2000	19	Song Sparrow	1	1	100
05/21/2000	19	Sora	2	1	100
05/21/2000	19	Tennessee Warbler	4	1	100
05/21/2000	19	Western Tanager	1	1	100
05/21/2000	19	White-throated Sparrow	1	1	100
05/25/2000	1	American Robin	1	1	10
05/25/2000	1	Clay-colored Sparrow	3	1	10
05/25/2000	1	Le Conte's Sparrow	1	1	10
05/25/2000	1	Red-winged Blackbird	1	1	10
05/25/2000	1	Savannah Sparrow	2	1	10
05/25/2000	1	Tree Swallow	2	1	10
05/25/2000	1	White-throated Sparrow	1	1	10
05/25/2000	1	Yellow Warbler	2	1	10
05/25/2000	2	Clay-colored Sparrow	2	1	10
05/25/2000	2	Le Conte's Sparrow	1	1	10
05/25/2000	2	Northern Flicker	1	1	10
05/25/2000	2	Red-winged Blackbird	4	1	10
05/25/2000	2	Sora	2	1	10
05/25/2000	2	White-throated Sparrow	1	1	10
05/25/2000	2	Yellow Warbler	2	1	10
05/25/2000	3	American Robin	1	1	10
05/25/2000	3	Clay-colored Sparrow	3	1	10
05/25/2000	3	Ovenbird	1	1	10
05/25/2000	3	Red-winged Blackbird	3	1	10
05/25/2000	3	Sora	1	1	10
05/25/2000	3	Swamp Sparrow	1	1	10
05/25/2000	3	Tree Swallow	1	1	10
05/25/2000	3	Lincoln's Sparrow	1	1	10
05/25/2000	4	Canada Goose	1	1	10
05/25/2000	4	Chipping Sparrow	2	1	10
05/25/2000	4	Le Conte's Sparrow	3	1	10
05/25/2000	4	Marsh Wren	1	1	10
05/25/2000	4	Northern Flicker	1	1	10
05/25/2000	4	Common Raven	1	1	10
05/25/2000	4	Red-tailed Hawk	1	1	10
05/25/2000	4	Red-winged Blackbird	6	1	10
05/25/2000	4	Sora	2	1	10
05/25/2000	4	White-throated Sparrow	1	1	10
05/25/2000	5	Black-billed Magpie	1	1	10
05/25/2000	5	Clay-colored Sparrow	3	1	10
05/25/2000	5	Le Conte's Sparrow	1	1	10

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
05/25/2000	5	Common Raven	1	1	10
05/25/2000	5	Red-tailed Hawk	1	1	10
05/25/2000	5	Red-winged Blackbird	3	1	10
05/25/2000	5	Sora	3	1	10
05/25/2000	5	Lincoln's Sparrow	1	1	10
05/25/2000	5	White-throated Sparrow	1	1	10
05/25/2000	6	Sora	2	1	5
05/25/2000	6	Clay-colored Sparrow	2	1	5
05/25/2000	6	Common Yellowthroat	1	1	5
05/25/2000	6	Least Flycatcher	2	1	5
05/25/2000	6	Red-winged Blackbird	7	1	5
05/25/2000	6	Rose-breasted Grosbeak	2	1	5
05/25/2000	6	Savannah Sparrow	1	1	5
05/25/2000	6	Tennessee Warbler	1	1	5
05/25/2000	6	White-throated Sparrow	1	1	5
05/25/2000	6	Yellow Warbler	2	1	5
05/25/2000	7	Black & White Warbler	1	1	5
05/25/2000	7	Black-capped Chickadee	1	1	5
05/25/2000	7	Clay-colored Sparrow	1	1	5
05/25/2000	7	Common Yellowthroat	2	1	5
05/25/2000	7	Least Flycatcher	1	1	5
05/25/2000	7	Magnolia Warbler	1	1	5
05/25/2000	7	Red-winged Blackbird	8	1	5
05/25/2000	7	Song Sparrow	1	1	5
05/25/2000	7	Sora	1	1	5
05/25/2000	7	Lincoln's Sparrow	1	1	5
05/25/2000	7	White-throated Sparrow	1	1	5
05/25/2000	7	Yellow Warbler	2	1	5
05/25/2000	8	American Robin	4	1	3
05/25/2000	8	Blue Jay	1	1	3
05/25/2000	8	Chipping Sparrow	3	1	3
05/25/2000	8	Clay-colored Sparrow	2	1	3
05/25/2000	8	Red-eyed Vireo	1	1	3
05/25/2000	8	Song Sparrow	3	1	3
05/25/2000	8	Yellow Warbler	4	1	3
05/25/2000	9	Black-capped Chickadee	1	1	3
05/25/2000	9	Chipping Sparrow	1	1	3
05/25/2000	9	Clay-colored Sparrow	1	1	3
05/25/2000	9	Killdeer	1	1	3
05/25/2000	9	Least Flycatcher	1	1	3
05/25/2000	9	Le Conte's Sparrow	1	1	3
05/25/2000	9	Rose-breasted Grosbeak	1	1	3
05/25/2000	9	Song Sparrow	1	1	3
05/25/2000	9	Lincoln's Sparrow	1	1	3
05/25/2000	10	Black & White Warbler	1	1	3
05/25/2000	10	Boreal Chickadee	1	1	3
05/25/2000	10	Chipping Sparrow	1	1	3
05/25/2000	10	House Wren	1	1	3
05/25/2000	10	Killdeer	1	1	3
05/25/2000	10	Least Flycatcher	1	1	3

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
05/25/2000	10	Rose-breasted Grosbeak	2	1	3
05/25/2000	10	Ruby-crowned Kinglet	2	1	3
05/25/2000	10	Lincoln's Sparrow	1	1	3
05/25/2000	10	White-throated Sparrow	2	1	3
05/25/2000	12	Black & White Warbler	1	1	3
05/25/2000	12	Chipping Sparrow	1	1	3
05/25/2000	12	Least Flycatcher	1	1	3
05/25/2000	12	Red-breasted Nuthatch	1	1	3
05/25/2000	12	Blue-headed Vireo	1	1	3
05/25/2000	12	Tennessee Warbler	2	1	3
05/25/2000	12	Yellow Warbler	2	1	3
05/25/2000	13	Brown-headed Cowbird	1	1	3
05/25/2000	13	Chipping Sparrow	1	1	3
05/25/2000	13	Clay-colored Sparrow	2	1	3
05/25/2000	13	Least Flycatcher	1	1	3
05/25/2000	13	Ovenbird	1	1	3
05/25/2000	13	Song Sparrow	2	1	3
05/25/2000	13	Tennessee Warbler	2	1	3
05/25/2000	13	Western Tanager	1	1	3
05/25/2000	13	White-throated Sparrow	2	1	3
05/25/2000	14	Black & White Warbler	2	1	3
05/25/2000	14	Black-capped Chickadee	1	1	3
05/25/2000	14	Canada Goose	1	1	3
05/25/2000	14	Least Flycatcher	4	1	3
05/25/2000	14	Magnolia Warbler	1	1	3
05/25/2000	14	Song Sparrow	1	1	3
05/25/2000	14	Tennessee Warbler	2	1	3
05/25/2000	14	Western Tanager	1	1	3
05/25/2000	14	White-throated Sparrow	2	1	3
05/25/2000	14	Yellow Warbler	2	1	3
05/25/2000	14	Yellow-headed Blackbird	2	1	3
05/25/2000	15	Brown-headed Cowbird	1	1	3
05/25/2000	15	Clay-colored Sparrow	1	1	3
05/25/2000	15	Least Flycatcher	2	1	3
05/25/2000	15	Red-winged Blackbird	1	1	3
05/25/2000	15	Song Sparrow	1	1	3
05/25/2000	15	Sora	1	1	3
05/25/2000	15	White-throated Sparrow	1	1	3
05/25/2000	15	Yellow Warbler	2	1	3
05/25/2000	15	Yellow-headed Blackbird	1	1	3
05/25/2000	16	Black & White Warbler	2	1	3
05/25/2000	16	Brown-headed Cowbird	3	1	3
05/25/2000	16	Chipping Sparrow	2	1	3
05/25/2000	16	Clay-colored Sparrow	1	1	3
05/25/2000	16	Least Flycatcher	2	1	3
05/25/2000	16	Song Sparrow	2	1	3
05/25/2000	16	Western Tanager	1	1	3
05/25/2000	16	Yellow Warbler	1	1	3
05/25/2000	16	Yellow-headed Blackbird	2	1	3
05/25/2000	17	American Robin	1	1	3

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
05/25/2000	17	Black & White Warbler	2	1	3
05/25/2000	17	Chipping Sparrow	2	1	3
05/25/2000	17	Clay-colored Sparrow	3	1	3
05/25/2000	17	Yellow-rumped Warbler	1	1	3
05/25/2000	17	Song Sparrow	1	1	3
05/25/2000	17	Tennessee Warbler	1	1	3
05/25/2000	17	Western Tanager	1	1	3
05/25/2000	17	White-throated Sparrow	2	1	3
05/25/2000	17	Yellow Warbler	1	1	3
05/25/2000	17	Yellow-headed Blackbird	1	1	3
05/25/2000	18	Bald Eagle	1	1	3
05/25/2000	18	Black & White Warbler	1	1	3
05/25/2000	18	Chipping Sparrow	2	1	3
05/25/2000	18	Least Flycatcher	2	1	3
05/25/2000	18	Ovenbird	1	1	3
05/25/2000	18	Western Tanager	1	1	3
05/25/2000	18	White-throated Sparrow	1	1	3
05/25/2000	18	Yellow Warbler	2	1	3
05/25/2000	19	Black & White Warbler	2	1	3
05/25/2000	19	Black-capped Chickadee	1	1	3
05/25/2000	19	Chipping Sparrow	2	1	3
05/25/2000	19	Least Flycatcher	2	1	3
05/25/2000	19	Yellow-rumped Warbler	1	1	3
05/25/2000	19	Ovenbird	2	1	3
05/25/2000	19	Song Sparrow	1	1	3
05/25/2000	19	Sora	1	1	3
05/25/2000	19	Tennessee Warbler	1	1	3
05/25/2000	19	Western Tanager	2	1	3
05/25/2000	20	Black & White Warbler	3	1	3
05/25/2000	20	Brown-headed Cowbird	2	1	3
05/25/2000	20	Clay-colored Sparrow	2	1	3
05/25/2000	20	Least Flycatcher	3	1	3
05/25/2000	20	Magnolia Warbler	1	1	3
05/25/2000	20	Yellow-rumped Warbler	1	1	3
05/25/2000	20	Red-winged Blackbird	3	1	3
05/25/2000	20	Western Tanager	2	1	3
05/25/2000	20	White-throated Sparrow	1	1	3
05/25/2000	20	White-throated Sparrow	1	1	3
05/25/2000	20	Yellow Warbler	1	1	3
05/26/2000	1	American Robin	1	1	15
05/26/2000	1	Clay-colored Sparrow	1	1	15
05/26/2000	1	Le Conte's Sparrow	2	1	15
05/26/2000	1	Red-winged Blackbird	1	1	15
05/26/2000	1	Sora	1	1	15
05/26/2000	1	Swamp Sparrow	1	1	15
05/26/2000	1	Tennessee Warbler	1	1	15
05/26/2000	1	Tree Swallow	2	1	15
05/26/2000	1	Lincoln's Sparrow	1	1	15
05/26/2000	2	Sora	2	1	15
05/26/2000	2	American Crow	1	1	15

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
05/26/2000	2	American Robin	1	1	15
05/26/2000	2	Chipping Sparrow	1	1	15
05/26/2000	2	Clay-colored Sparrow	3	1	15
05/26/2000	2	Red-winged Blackbird	3	1	15
05/26/2000	2	Savannah Sparrow	1	1	15
05/26/2000	2	Song Sparrow	1	1	15
05/26/2000	2	Swamp Sparrow	2	1	15
05/26/2000	2	Tree Swallow	1	1	15
05/26/2000	2	White-throated Sparrow	1	1	15
05/26/2000	2	Yellow Warbler	2	1	15
05/26/2000	3	Clay-colored Sparrow	2	1	15
05/26/2000	3	Le Conte's Sparrow	1	1	15
05/26/2000	3	Red-winged Blackbird	3	1	15
05/26/2000	3	Tennessee Warbler	1	1	15
05/26/2000	3	White-throated Sparrow	1	1	15
05/26/2000	3	Yellow Warbler	2	1	15
05/26/2000	4	Black-capped Chickadee	2	1	20
05/26/2000	4	Chipping Sparrow	1	1	20
05/26/2000	4	Clay-colored Sparrow	1	1	20
05/26/2000	4	Killdeer	1	1	20
05/26/2000	4	Le Conte's Sparrow	2	1	20
05/26/2000	4	Red-winged Blackbird	6	1	20
05/26/2000	4	Sora	2	1	20
05/26/2000	4	Lincoln's Sparrow	3	1	20
05/26/2000	4	Yellow Warbler	2	1	20
05/26/2000	5	Canada Goose	1	1	20
05/26/2000	5	Swamp Sparrow	2	1	20
05/26/2000	5	Black-capped Chickadee	1	1	20
05/26/2000	5	Killdeer	2	1	20
05/26/2000	5	Least Flycatcher	1	1	20
05/26/2000	5	Le Conte's Sparrow	2	1	20
05/26/2000	5	Ovenbird	1	1	20
05/26/2000	5	Red-winged Blackbird	5	1	20
05/26/2000	5	Savannah Sparrow	1	1	20
05/26/2000	5	Song Sparrow	1	1	20
05/26/2000	5	Lincoln's Sparrow	1	1	20
05/26/2000	5	White-throated Sparrow	1	1	20
05/26/2000	6	American Robin	2	1	20
05/26/2000	6	Black-capped Chickadee	1	1	20
05/26/2000	6	Canada Goose	1	1	20
05/26/2000	6	Chipping Sparrow	1	1	20
05/26/2000	6	Clay-colored Sparrow	2	1	20
05/26/2000	6	Killdeer	1	1	20
05/26/2000	6	Red-winged Blackbird	5	1	20
05/26/2000	6	Savannah Sparrow	1	1	20
05/26/2000	6	Song Sparrow	1	1	20
05/26/2000	6	Swamp Sparrow	3	1	20
05/26/2000	6	Tennessee Warbler	2	1	20
05/26/2000	6	White-throated Sparrow	1	1	20
05/26/2000	6	Yellow Warbler	2	1	20

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
05/26/2000	7	Clay-colored Sparrow	7	1	25
05/26/2000	7	Least Flycatcher	1	1	25
05/26/2000	7	Red-winged Blackbird	5	1	25
05/26/2000	7	Savannah Sparrow	3	1	25
05/26/2000	7	Song Sparrow	1	1	25
05/26/2000	7	Swamp Sparrow	3	1	25
05/26/2000	7	White-throated Sparrow	1	1	25
05/26/2000	7	Yellow Warbler	2	1	25
05/26/2000	8	American Robin	1	1	25
05/26/2000	8	Chipping Sparrow	2	1	25
05/26/2000	8	Clay-colored Sparrow	2	1	25
05/26/2000	8	Killdeer	1	1	25
05/26/2000	8	Magnolia Warbler	2	1	25
05/26/2000	8	Red-eyed Vireo	1	1	25
05/26/2000	8	Savannah Sparrow	1	1	25
05/26/2000	8	Song Sparrow	1	1	25
05/26/2000	8	Tennessee Warbler	3	1	25
05/26/2000	8	White-throated Sparrow	1	1	25
05/26/2000	8	Yellow Warbler	2	1	25
05/26/2000	9	American Robin	2	1	30
05/26/2000	9	Black & White Warbler	1	1	30
05/26/2000	9	Blue Jay	1	1	30
05/26/2000	9	Boreal Chickadee	1	1	30
05/26/2000	9	Clay-colored Sparrow	2	1	30
05/26/2000	9	Least Flycatcher	1	1	30
05/26/2000	9	Savannah Sparrow	1	1	30
05/26/2000	10	American Crow	1	1	35
05/26/2000	10	American Robin	1	1	35
05/26/2000	10	Chipping Sparrow	3	1	35
05/26/2000	10	House Wren	1	1	35
05/26/2000	10	Killdeer	1	1	35
05/26/2000	10	Least Flycatcher	1	1	35
05/26/2000	10	Ovenbird	1	1	35
05/26/2000	10	Red-breasted Nuthatch	1	1	35
05/26/2000	10	Red-eyed Vireo	1	1	35
05/26/2000	10	Savannah Sparrow	1	1	35
05/26/2000	10	White-throated Sparrow	1	1	35
05/26/2000	11	Clay-colored Sparrow	2	2	25
05/26/2000	11	Least Flycatcher	2	2	25
05/26/2000	11	Yellow-rumped Warbler	1	2	25
05/26/2000	11	Ovenbird	1	2	25
05/26/2000	11	Tennessee Warbler	6	2	25
05/26/2000	11	White-throated Sparrow	1	2	25
05/26/2000	11	Yellow Warbler	1	2	25
05/26/2000	12	Clay-colored Sparrow	1	2	25
05/26/2000	12	Least Flycatcher	3	2	25
05/26/2000	12	Ovenbird	1	2	25
05/26/2000	12	Rose-breasted Grosbeak	2	2	25
05/26/2000	12	Savannah Sparrow	1	2	25
05/26/2000	12	Tennessee Warbler	5	2	25

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
05/26/2000	12	Western Tanager	1	2	25
05/26/2000	12	White-throated Sparrow	2	2	25
05/26/2000	13	American Robin	1	2	25
05/26/2000	13	Baltimore Oriole	1	2	25
05/26/2000	13	Brown-headed Cowbird	1	2	25
05/26/2000	13	Clay-colored Sparrow	1	2	25
05/26/2000	13	Least Flycatcher	2	2	25
05/26/2000	13	Tennessee Warbler	5	2	25
05/26/2000	13	Western Tanager	1	2	25
05/26/2000	13	White-throated Sparrow	3	2	25
05/26/2000	14	Clay-colored Sparrow	2	2	25
05/26/2000	14	Least Flycatcher	2	2	25
05/26/2000	14	Yellow-rumped Warbler	1	2	25
05/26/2000	14	Northern Flicker	1	2	25
05/26/2000	14	Red-breasted Nuthatch	1	2	25
05/26/2000	14	Rose-breasted Grosbeak	1	2	25
05/26/2000	14	Tennessee Warbler	3	2	25
05/26/2000	14	Western Tanager	1	2	25
05/26/2000	14	White-throated Sparrow	2	2	25
05/26/2000	14	Yellow Warbler	3	2	25
05/26/2000	15	Chipping Sparrow	1	2	25
05/26/2000	15	Clay-colored Sparrow	1	2	25
05/26/2000	15	Least Flycatcher	3	2	25
05/26/2000	15	Red-eyed Vireo	1	2	25
05/26/2000	15	Savannah Sparrow	1	2	25
05/26/2000	15	White-throated Sparrow	1	2	25
05/26/2000	15	Yellow Warbler	1	2	25
05/26/2000	15	Yellow-headed Blackbird	1	2	25
05/26/2000	16	Chipping Sparrow	2	2	25
05/26/2000	16	Least Flycatcher	4	2	25
05/26/2000	16	Magnolia Warbler	1	2	25
05/26/2000	16	Red-breasted Nuthatch	1	2	25
05/26/2000	16	Red-winged Blackbird	1	2	25
05/26/2000	16	Rose-breasted Grosbeak	1	2	25
05/26/2000	16	Tennessee Warbler	1	2	25
05/26/2000	16	Western Tanager	2	2	25
05/26/2000	16	White-throated Sparrow	2	2	25
05/26/2000	16	Yellow Warbler	2	2	25
05/26/2000	16	Yellow-headed Blackbird	1	2	25
05/26/2000	17	Black & White Warbler	1	1	25
05/26/2000	17	Chipping Sparrow	2	1	25
05/26/2000	17	Least Flycatcher	2	1	25
05/26/2000	17	Yellow-rumped Warbler	3	1	25
05/26/2000	17	Rose-breasted Grosbeak	1	1	25
05/26/2000	17	Tennessee Warbler	4	1	25
05/26/2000	17	White-throated Sparrow	1	1	25
05/26/2000	18	American Robin	1	1	25
05/26/2000	18	Least Flycatcher	3	1	25
05/26/2000	18	Ovenbird	1	1	25
05/26/2000	18	Savannah Sparrow	1	1	25

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
05/26/2000	18	Blue-headed Vireo	1	1	25
05/26/2000	18	Tennessee Warbler	1	1	25
05/26/2000	19	American Robin	2	1	15
05/26/2000	19	Brown-headed Cowbird	1	1	15
05/26/2000	19	Chipping Sparrow	2	1	15
05/26/2000	19	Killdeer	1	1	15
05/26/2000	19	Least Flycatcher	2	1	15
05/26/2000	19	Mallard	1	1	15
05/26/2000	19	Red-winged Blackbird	3	1	15
05/26/2000	19	Rose-breasted Grosbeak	1	1	15
05/26/2000	19	Savannah Sparrow	2	1	15
05/26/2000	19	Sora	1	1	15
05/26/2000	19	Tennessee Warbler	2	1	15
05/26/2000	19	Yellow Warbler	3	1	15
05/26/2000	20	Eared Grebe	1	1	20
05/26/2000	20	Least Flycatcher	4	1	20
05/26/2000	20	Tennessee Warbler	1	1	20
05/26/2000	20	Western Tanager	1	1	20
05/26/2000	20	White-throated Sparrow	1	1	20
05/26/2000	20	Yellow Warbler	3	1	20
05/26/2000	20	Yellow-headed Blackbird	1	1	20
06/01/2000	1	Clay-colored Sparrow	2	1	3
06/01/2000	1	Common Yellowthroat	2	1	3
06/01/2000	1	Red-eyed Vireo	1	1	3
06/01/2000	1	Red-winged Blackbird	3	1	3
06/01/2000	1	Song Sparrow	1	1	3
06/01/2000	1	Lincoln's Sparrow	1	1	3
06/01/2000	1	Yellow Warbler	2	1	3
06/01/2000	2	American Crow	2	1	3
06/01/2000	2	Clay-colored Sparrow	2	1	3
06/01/2000	2	Common Yellowthroat	1	1	3
06/01/2000	2	Le Conte's Sparrow	2	1	3
06/01/2000	2	Marsh Wren	1	1	3
06/01/2000	2	Northern Flicker	1	1	3
06/01/2000	2	Red-breasted Nuthatch	1	1	3
06/01/2000	2	Savannah Sparrow	1	1	3
06/01/2000	2	Song Sparrow	1	1	3
06/01/2000	2	Sora	1	1	3
06/01/2000	2	Swamp Sparrow	1	1	3
06/01/2000	3	Alder Flycatcher	2	1	3
06/01/2000	3	American Crow	1	1	3
06/01/2000	3	Brown-headed Cowbird	3	1	3
06/01/2000	3	Clay-colored Sparrow	4	1	3
06/01/2000	3	Common Yellowthroat	2	1	3
06/01/2000	3	Le Conte's Sparrow	1	1	3
06/01/2000	3	Marsh Wren	1	1	3
06/01/2000	3	Northern Flicker	1	1	3
06/01/2000	3	Red-winged Blackbird	5	1	3
06/01/2000	4	Bald Eagle	1	1	3
06/01/2000	4	Common Yellowthroat	2	1	3

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
06/01/2000	4	Le Conte's Sparrow	2	1	3
06/01/2000	4	Ovenbird	1	1	3
06/01/2000	4	Red-eyed Vireo	1	1	3
06/01/2000	4	Red-winged Blackbird	5	1	3
06/01/2000	4	Song Sparrow	1	1	3
06/01/2000	4	Sora	1	1	3
06/01/2000	4	Swamp Sparrow	1	1	3
06/01/2000	4	Unidentified Waterfowl	45	1	3
06/01/2000	5	American Crow	2	2	3
06/01/2000	5	Black-billed Magpie	1	2	3
06/01/2000	5	Canada Goose	64	2	3
06/01/2000	5	Least Flycatcher	1	2	3
06/01/2000	5	Northern Flicker	1	2	3
06/01/2000	5	Red-winged Blackbird	3	2	3
06/01/2000	5	Swamp Sparrow	1	2	3
06/01/2000	5	White-throated Sparrow	1	2	3
06/01/2000	6	Blue Jay	1	2	3
06/01/2000	6	Clay-colored Sparrow	1	2	3
06/01/2000	6	Le Conte's Sparrow	4	2	3
06/01/2000	6	Mallard	2	2	3
06/01/2000	6	Red-breasted Nuthatch	1	2	3
06/01/2000	6	Red-eyed Vireo	1	2	3
06/01/2000	6	Red-winged Blackbird	1	2	3
06/01/2000	6	Song Sparrow	1	2	3
06/01/2000	6	Unidentified Songbird	4	2	3
06/01/2000	6	White-throated Sparrow	1	2	3
06/01/2000	6	Yellow Warbler	3	2	3
06/01/2000	7	Brown-headed Cowbird	6	2	3
06/01/2000	7	Canada Goose	40	2	3
06/01/2000	7	Clay-colored Sparrow	2	2	3
06/01/2000	7	Common Yellowthroat	1	2	3
06/01/2000	7	Le Conte's Sparrow	2	2	3
06/01/2000	7	Red-winged Blackbird	2	2	3
06/01/2000	7	Song Sparrow	2	2	3
06/01/2000	7	Swamp Sparrow	2	2	3
06/01/2000	7	White-throated Sparrow	1	2	3
06/01/2000	8	American Crow	1	2	3
06/01/2000	8	Chipping Sparrow	1	2	3
06/01/2000	8	Ovenbird	1	2	3
06/01/2000	8	Rose-breasted Grosbeak	1	2	3
06/01/2000	8	Song Sparrow	2	2	3
06/01/2000	8	Swainson's Thrush	1	2	3
06/01/2000	9	American Robin	1	3	3
06/01/2000	9	Canada Goose	1	3	3
06/01/2000	9	Red-eyed Vireo	1	3	3
06/01/2000	9	Savannah Sparrow	1	3	3
06/01/2000	9	Song Sparrow	1	3	3
06/01/2000	9	Song Sparrow	2	3	3
06/01/2000	9	White-throated Sparrow	1	3	3
06/01/2000	9	Yellow-rumped Warbler	1	3	3

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
06/01/2000	10	American Robin	2	2	3
06/01/2000	10	Boreal Chickadee	1	2	3
06/01/2000	10	Canada Goose	1	2	3
06/01/2000	10	Chipping Sparrow	2	2	3
06/01/2000	10	House Wren	1	2	3
06/01/2000	10	Red-eyed Vireo	1	2	3
06/01/2000	10	Unidentified Songbird	1	2	3
06/01/2000	10	White-throated Sparrow	1	2	3
06/01/2000	10	Yellow-rumped Warbler	1	2	3
06/01/2000	11	American Robin	2	1	10
06/01/2000	11	Baltimore Oriole	1	1	10
06/01/2000	11	Brown-headed Cowbird	2	1	10
06/01/2000	11	Least Flycatcher	5	1	10
06/01/2000	11	Song Sparrow	1	1	10
06/01/2000	11	Western Tanager	1	1	10
06/01/2000	11	White-throated Sparrow	2	1	10
06/01/2000	11	Yellow Warbler	3	1	10
06/01/2000	12	Canada Goose	1	1	10
06/01/2000	12	Cedar Waxwing	1	1	10
06/01/2000	12	Clay-colored Sparrow	1	1	10
06/01/2000	12	Least Flycatcher	2	1	10
06/01/2000	12	Red-eyed Vireo	1	1	10
06/01/2000	12	White-throated Sparrow	1	1	10
06/01/2000	12	Yellow Warbler	2	1	10
06/01/2000	13	American Crow	1	2	10
06/01/2000	13	Clay-colored Sparrow	2	2	10
06/01/2000	13	Least Flycatcher	2	2	10
06/01/2000	13	Ovenbird	1	2	10
06/01/2000	13	Red-eyed Vireo	1	2	10
06/01/2000	13	Song Sparrow	2	2	10
06/01/2000	13	White-throated Sparrow	1	2	10
06/01/2000	13	Yellow Warbler	4	2	10
06/01/2000	14	American Robin	2	1	10
06/01/2000	14	Blue-wing Teal	3	1	10
06/01/2000	14	Chipping Sparrow	1	1	10
06/01/2000	14	Clay-colored Sparrow	1	1	10
06/01/2000	14	Least Flycatcher	3	1	10
06/01/2000	14	Ovenbird	1	1	10
06/01/2000	14	Rose-breasted Grosbeak	2	1	10
06/01/2000	14	Song Sparrow	2	1	10
06/01/2000	14	White-throated Sparrow	2	1	10
06/01/2000	15	American Robin	1	1	10
06/01/2000	15	Clay-colored Sparrow	1	1	10
06/01/2000	15	Least Flycatcher	3	1	10
06/01/2000	15	Red-eyed Vireo	1	1	10
06/01/2000	15	Rose-breasted Grosbeak	1	1	10
06/01/2000	15	Song Sparrow	1	1	10
06/01/2000	15	White-throated Sparrow	2	1	10
06/01/2000	16	Brown-headed Cowbird	1	1	10
06/01/2000	16	Cedar Waxwing	1	1	10

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
06/01/2000	16	Clay-colored Sparrow	1	1	10
06/01/2000	16	Least Flycatcher	2	1	10
06/01/2000	16	Northern Flicker	1	1	10
06/01/2000	16	Red-breasted Nuthatch	1	1	10
06/01/2000	16	Red-eyed Vireo	1	1	10
06/01/2000	16	Red-winged Blackbird	2	1	10
06/01/2000	16	White-throated Sparrow	1	1	10
06/01/2000	16	Yellow Warbler	2	1	10
06/01/2000	16	Yellow-headed Blackbird	2	1	10
06/01/2000	17	Chipping Sparrow	2	1	10
06/01/2000	17	Red-winged Blackbird	2	1	10
06/01/2000	17	Song Sparrow	2	1	10
06/01/2000	17	Sora	1	1	10
06/01/2000	17	Swainson's Thrush	2	1	10
06/01/2000	17	Western Tanager	1	1	10
06/01/2000	17	White-throated Sparrow	1	1	10
06/01/2000	17	Yellow Warbler	2	1	10
06/01/2000	17	Yellow-headed Blackbird	2	1	10
06/01/2000	18	Least Flycatcher	2	2	10
06/01/2000	18	Red-eyed Vireo	2	2	10
06/01/2000	18	Red-winged Blackbird	1	2	10
06/01/2000	18	Sora	1	2	10
06/01/2000	18	Yellow Warbler	4	2	10
06/01/2000	18	Yellow-headed Blackbird	2	2	10
06/01/2000	19	American Robin	1	2	10
06/01/2000	19	Brown-headed Cowbird	1	2	10
06/01/2000	19	Killdeer	1	2	10
06/01/2000	19	Least Flycatcher	2	2	10
06/01/2000	19	Ovenbird	1	2	10
06/01/2000	19	White-throated Sparrow	1	2	10
06/01/2000	19	Yellow Warbler	1	2	10
06/01/2000	20	Cedar Waxwing	1	2	10
06/01/2000	20	Clay-colored Sparrow	1	2	10
06/01/2000	20	Least Flycatcher	3	2	10
06/01/2000	20	Northern Flicker	1	2	10
06/01/2000	20	Northern Waterthrush	1	2	10
06/01/2000	20	Red-winged Blackbird	1	2	10
06/01/2000	20	Rose-breasted Grosbeak	1	2	10
06/01/2000	20	White-throated Sparrow	1	2	10
06/01/2000	20	Yellow Warbler	2	2	10
06/01/2000	20	Yellow-headed Blackbird	1	2	10
06/02/2000	1	Clay-colored Sparrow	1	2	30
06/02/2000	1	Common Yellowthroat	1	2	30
06/02/2000	1	Le Conte's Sparrow	2	2	30
06/02/2000	1	Marsh Wren	1	2	30
06/02/2000	1	Red-winged Blackbird	1	2	30
06/02/2000	1	Tree Swallow	3	2	30
06/02/2000	1	Unidentified Gull	16	2	30
06/02/2000	1	Yellow Warbler	1	2	30
06/02/2000	2	American Crow	1	2	30

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
06/02/2000	2	Clay-colored Sparrow	2	2	30
06/02/2000	2	Common Yellowthroat	2	2	30
06/02/2000	2	Le Conte's Sparrow	1	2	30
06/02/2000	2	Common Raven	1	2	30
06/02/2000	2	Red-winged Blackbird	2	2	30
06/02/2000	2	Sora	1	2	30
06/02/2000	2	Swamp Sparrow	3	2	30
06/02/2000	2	Tree Swallow	1	2	30
06/02/2000	2	Lincoln's Sparrow	1	2	30
06/02/2000	2	Yellow Warbler	1	2	30
06/02/2000	3	Alder Flycatcher	1	2	40
06/02/2000	3	Canada Warbler	2	2	40
06/02/2000	3	Clay-colored Sparrow	2	2	40
06/02/2000	3	Common Yellowthroat	1	2	40
06/02/2000	3	Le Conte's Sparrow	1	2	40
06/02/2000	3	Red-winged Blackbird	3	2	40
06/02/2000	3	Swamp Sparrow	1	2	40
06/02/2000	3	Tree Swallow	1	2	40
06/02/2000	3	Unidentified Songbird	1	2	40
06/02/2000	3	Lincoln's Sparrow	1	2	40
06/02/2000	4	Chipping Sparrow	2	2	35
06/02/2000	4	Clay-colored Sparrow	2	2	35
06/02/2000	4	Common Yellowthroat	1	2	35
06/02/2000	4	Le Conte's Sparrow	2	2	35
06/02/2000	4	Sora	1	2	35
06/02/2000	4	Swamp Sparrow	1	2	35
06/02/2000	4	Lincoln's Sparrow	1	2	35
06/02/2000	5	Clay-colored Sparrow	1	2	35
06/02/2000	5	Common Yellowthroat	1	2	35
06/02/2000	5	House Wren	1	2	35
06/02/2000	5	Le Conte's Sparrow	2	2	35
06/02/2000	5	Red-winged Blackbird	2	2	35
06/02/2000	5	Savannah Sparrow	1	2	35
06/02/2000	5	Sora	1	2	35
06/02/2000	6	Alder Flycatcher	1	1	30
06/02/2000	6	Common Yellowthroat	2	1	30
06/02/2000	6	Red-eyed Vireo	1	1	30
06/02/2000	6	Red-winged Blackbird	1	1	30
06/02/2000	6	Swamp Sparrow	1	1	30
06/02/2000	6	Unidentified Songbird	1	1	30
06/02/2000	6	Lincoln's Sparrow	1	1	30
06/02/2000	7	Black & White Warbler	1	2	30
06/02/2000	7	Brown-headed Cowbird	1	2	30
06/02/2000	7	Clay-colored Sparrow	1	2	30
06/02/2000	7	Common Yellowthroat	1	2	30
06/02/2000	7	Least Flycatcher	1	2	30
06/02/2000	7	Le Conte's Sparrow	1	2	30
06/02/2000	7	Red-winged Blackbird	1	2	30
06/02/2000	7	Rose-breasted Grosbeak	1	2	30
06/02/2000	7	Song Sparrow	1	2	30

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
06/02/2000	7	Swamp Sparrow	1	2	30
06/02/2000	7	Tennessee Warbler	1	2	30
06/02/2000	7	White-throated Sparrow	2	2	30
06/02/2000	7	Yellow Warbler	1	2	30
06/02/2000	8	Red-eyed Vireo	1	3	30
06/02/2000	8	Song Sparrow	1	3	30
06/02/2000	9	Canada Goose	1	3	30
06/02/2000	9	Chipping Sparrow	1	3	30
06/02/2000	9	Le Conte's Sparrow	1	3	30
06/02/2000	9	Red-breasted Nuthatch	1	3	30
06/02/2000	9	Red-eyed Vireo	1	3	30
06/02/2000	9	Rose-breasted Grosbeak	1	3	30
06/02/2000	9	Savannah Sparrow	1	3	30
06/02/2000	9	Song Sparrow	1	3	30
06/02/2000	10	Alder Flycatcher	2	3	35
06/02/2000	10	Boreal Chickadee	1	3	35
06/02/2000	10	Chipping Sparrow	3	3	35
06/02/2000	10	Red-eyed Vireo	1	3	35
06/02/2000	10	Red-tailed Hawk	1	3	35
06/02/2000	10	Rose-breasted Grosbeak	1	3	35
06/02/2000	10	Lincoln's Sparrow	1	3	35
06/02/2000	10	White-throated Sparrow	1	3	35
06/02/2000	11	Alder Flycatcher	1	2	70
06/02/2000	11	American Robin	1	2	70
06/02/2000	11	Canada Goose	1	2	70
06/02/2000	11	Chipping Sparrow	2	2	70
06/02/2000	11	Least Flycatcher	2	2	70
06/02/2000	11	Rose-breasted Grosbeak	1	2	70
06/02/2000	11	Western Tanager	2	2	70
06/02/2000	11	White-throated Sparrow	2	2	70
06/02/2000	11	Yellow Warbler	2	2	70
06/02/2000	12	American Robin	1	2	70
06/02/2000	12	Bald Eagle	1	2	70
06/02/2000	12	Black & White Warbler	1	2	70
06/02/2000	12	Common Snipe	1	2	70
06/02/2000	12	Least Flycatcher	3	2	70
06/02/2000	12	Northern Flicker	1	2	70
06/02/2000	12	Red-breasted Nuthatch	1	2	70
06/02/2000	12	Song Sparrow	1	2	70
06/02/2000	12	Western Tanager	1	2	70
06/02/2000	12	White-throated Sparrow	2	2	70
06/02/2000	12	Yellow Warbler	2	2	70
06/02/2000	13	American Robin	1	2	60
06/02/2000	13	Chipping Sparrow	1	2	60
06/02/2000	13	Clay-colored Sparrow	2	2	60
06/02/2000	13	Least Flycatcher	2	2	60
06/02/2000	13	Northern Flicker	1	2	60
06/02/2000	13	Ovenbird	1	2	60
06/02/2000	13	Song Sparrow	2	2	60
06/02/2000	13	White-throated Sparrow	2	2	60

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
06/02/2000	13	Yellow Warbler	2	2	60
06/02/2000	14	American Robin	1	2	75
06/02/2000	14	Clay-colored Sparrow	3	2	75
06/02/2000	14	Least Flycatcher	1	2	75
06/02/2000	14	Northern Flicker	1	2	75
06/02/2000	14	Ovenbird	1	2	75
06/02/2000	14	Red-breasted Nuthatch	1	2	75
06/02/2000	14	Song Sparrow	2	2	75
06/02/2000	14	Unidentified Songbird	1	2	75
06/02/2000	14	Lincoln's Sparrow	1	2	75
06/02/2000	14	Western Tanager	2	2	75
06/02/2000	14	White-throated Sparrow	2	2	75
06/02/2000	14	Yellow Warbler	2	2	75
06/02/2000	15	American Robin	2	2	75
06/02/2000	15	Least Flycatcher	3	2	75
06/02/2000	15	Least Flycatcher	2	2	75
06/02/2000	15	Red-eyed Vireo	1	2	75
06/02/2000	15	Song Sparrow	1	2	75
06/02/2000	15	White-throated Sparrow	1	2	75
06/02/2000	15	Yellow Warbler	1	2	75
06/02/2000	16	Baltimore Oriole	1	2	75
06/02/2000	16	Cedar Waxwing	1	2	75
06/02/2000	16	Least Flycatcher	2	2	75
06/02/2000	16	Red-winged Blackbird	2	2	75
06/02/2000	16	Song Sparrow	1	2	75
06/02/2000	16	Sora	1	2	75
06/02/2000	16	Lincoln's Sparrow	1	2	75
06/02/2000	16	White-throated Sparrow	2	2	75
06/02/2000	16	Yellow Warbler	1	2	75
06/02/2000	16	Yellow-headed Blackbird	1	2	75
06/02/2000	17	American Robin	1	2	75
06/02/2000	17	Chipping Sparrow	2	2	75
06/02/2000	17	Ovenbird	1	2	75
06/02/2000	17	Red-winged Blackbird	1	2	75
06/02/2000	17	Song Sparrow	2	2	75
06/02/2000	17	Sora	1	2	75
06/02/2000	17	Western Tanager	1	2	75
06/02/2000	17	White-throated Sparrow	1	2	75
06/02/2000	17	Yellow Warbler	2	2	75
06/02/2000	17	Yellow-headed Blackbird	1	2	75
06/02/2000	18	Baltimore Oriole	1	2	75
06/02/2000	18	Canada Goose	1	2	75
06/02/2000	18	Least Flycatcher	2	2	75
06/02/2000	18	Northern Flicker	1	2	75
06/02/2000	18	Common Raven	1	2	75
06/02/2000	18	Red-breasted Nuthatch	1	2	75
06/02/2000	18	Red-eyed Vireo	1	2	75
06/02/2000	18	Lincoln's Sparrow	1	2	75
06/02/2000	18	Western Tanager	2	2	75
06/02/2000	18	White-throated Sparrow	1	2	75

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
06/02/2000	18	Yellow Warbler	2	2	75
06/02/2000	19	American Robin	1	2	75
06/02/2000	19	Canada Warbler	1	2	75
06/02/2000	19	Common Snipe	1	2	75
06/02/2000	19	Least Flycatcher	3	2	75
06/02/2000	19	Ovenbird	1	2	75
06/02/2000	19	Song Sparrow	2	2	75
06/02/2000	19	Western Tanager	1	2	75
06/02/2000	19	White-throated Sparrow	2	2	75
06/02/2000	19	Yellow Warbler	1	2	75
06/02/2000	19	Yellow-headed Blackbird	1	2	75
06/02/2000	20	Alder Flycatcher	1	2	75
06/02/2000	20	Canada Goose	1	2	75
06/02/2000	20	Common Snipe	1	2	75
06/02/2000	20	Least Flycatcher	3	2	75
06/02/2000	20	Northern Waterthrush	1	2	75
06/02/2000	20	Ovenbird	1	2	75
06/02/2000	20	Red-eyed Vireo	1	2	75
06/02/2000	20	Rose-breasted Grosbeak	1	2	75
06/02/2000	20	Blue-headed Vireo	1	2	75
06/02/2000	20	Song Sparrow	2	2	75
06/02/2000	20	Western Tanager	1	2	75
06/02/2000	20	White-throated Sparrow	2	2	75
06/10/2000	1	American Robin	1	3	100
06/10/2000	1	Canada Goose	1	3	100
06/10/2000	1	Clay-colored Sparrow	2	3	100
06/10/2000	1	Le Conte's Sparrow	1	3	100
06/10/2000	1	Red-winged Blackbird	3	3	100
06/10/2000	1	Song Sparrow	1	3	100
06/10/2000	1	Swamp Sparrow	2	3	100
06/10/2000	1	Tree Swallow	2	3	100
06/10/2000	1	Yellow Warbler	1	3	100
06/10/2000	2	Clay-colored Sparrow	2	3	100
06/10/2000	2	Le Conte's Sparrow	1	3	100
06/10/2000	2	Red-winged Blackbird	2	3	100
06/10/2000	2	Song Sparrow	1	3	100
06/10/2000	2	Sora	1	3	100
06/10/2000	2	Lincoln's Sparrow	1	3	100
06/10/2000	2	Yellow Warbler	2	3	100
06/10/2000	3	Alder Flycatcher	2	3	100
06/10/2000	3	Brown-headed Cowbird	4	3	100
06/10/2000	3	Clay-colored Sparrow	3	3	100
06/10/2000	3	Common Yellowthroat	1	3	100
06/10/2000	3	Le Conte's Sparrow	1	3	100
06/10/2000	3	Northern Flicker	1	3	100
06/10/2000	3	Red-winged Blackbird	3	3	100
06/10/2000	4	Le Conte's Sparrow	2	3	100
06/10/2000	4	Ovenbird	1	3	100
06/10/2000	4	Red-eyed Vireo	2	3	100
06/10/2000	4	Red-winged Blackbird	3	3	100

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
06/10/2000	4	Song Sparrow	1	3	100
06/10/2000	4	Sora	1	3	100
06/10/2000	4	Swamp Sparrow	1	3	100
06/10/2000	5	Ovenbird	1	3	100
06/10/2000	5	Red-eyed Vireo	1	3	100
06/10/2000	5	Le Conte's Sparrow	2	3	100
06/10/2000	5	Lincoln's Sparrow	1	3	100
06/10/2000	5	Red-tailed Hawk	1	3	100
06/10/2000	5	Black-capped Chickadee	3	3	100
06/11/2000	1	American Robin	1	5	100
06/11/2000	1	Clay-colored Sparrow	3	5	100
06/11/2000	1	Le Conte's Sparrow	1	5	100
06/11/2000	1	Red-winged Blackbird	4	5	100
06/11/2000	1	Song Sparrow	1	5	100
06/11/2000	1	Swamp Sparrow	2	5	100
06/11/2000	1	Tree Swallow	2	5	100
06/11/2000	1	White-throated Sparrow	2	5	100
06/11/2000	1	Yellow Warbler	3	5	100
06/11/2000	2	Clay-colored Sparrow	2	5	100
06/11/2000	2	Le Conte's Sparrow	1	5	100
06/11/2000	2	Red-winged Blackbird	2	5	100
06/11/2000	2	Song Sparrow	1	5	100
06/11/2000	2	Sora	1	5	100
06/11/2000	2	Swamp Sparrow	2	5	100
06/11/2000	2	Lincoln's Sparrow	2	5	100
06/11/2000	2	Yellow Warbler	1	5	100
06/11/2000	3	Alder Flycatcher	2	5	100
06/11/2000	3	Brown-headed Cowbird	4	5	100
06/11/2000	3	Clay-colored Sparrow	3	5	100
06/11/2000	3	Le Conte's Sparrow	3	5	100
06/11/2000	3	Red-winged Blackbird	3	5	100
06/11/2000	4	Le Conte's Sparrow	2	5	100
06/11/2000	4	Ovenbird	1	5	100
06/11/2000	4	Red-eyed Vireo	2	5	100
06/11/2000	4	Red-winged Blackbird	3	5	100
06/11/2000	4	Song Sparrow	1	5	100
06/11/2000	4	Sora	2	5	100
06/11/2000	4	Swamp Sparrow	2	5	100
06/11/2000	4	Yellow Warbler	1	5	100
06/11/2000	5	Ovenbird	1	5	100
06/11/2000	5	Red-eyed Vireo	1	5	100
06/11/2000	5	Le Conte's Sparrow	2	5	100
06/11/2000	5	Marsh Wren	1	5	100
06/11/2000	5	Swamp Sparrow	2	5	100
06/11/2000	5	Lincoln's Sparrow	1	5	100
06/11/2000	5	Black-capped Chickadee	1	5	100
06/14/2000	1	Alder Flycatcher	1	4	60
06/14/2000	1	Clay-colored Sparrow	2	4	60
06/14/2000	1	Franklin's Gull	24	4	60
06/14/2000	1	Le Conte's Sparrow	1	4	60

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
06/14/2000	1	Lincoln's Sparrow	1	4	60
06/14/2000	1	Red-eyed Vireo	1	4	60
06/14/2000	1	Red-winged Blackbird	3	4	60
06/14/2000	1	Song Sparrow	1	4	60
06/14/2000	1	Sora	3	4	60
06/14/2000	1	Swamp Sparrow	2	4	60
06/14/2000	1	Tree Swallow	2	4	60
06/14/2000	1	Vesper Sparrow	1	4	60
06/14/2000	1	Yellow Warbler	1	4	60
06/14/2000	2	Alder Flycatcher	1	4	60
06/14/2000	2	Clay-colored Sparrow	2	4	60
06/14/2000	2	Le Conte's Sparrow	1	4	60
06/14/2000	2	Lincoln's Sparrow	1	4	60
06/14/2000	2	Marsh Wren	1	4	60
06/14/2000	2	Red-eyed Vireo	1	4	60
06/14/2000	2	Red-winged Blackbird	3	4	60
06/14/2000	2	Ring-billed Gull	1	4	60
06/14/2000	2	Sora	1	4	60
06/14/2000	2	Swamp Sparrow	1	4	60
06/14/2000	2	Tree Swallow	1	4	60
06/14/2000	2	Yellow Warbler	1	4	60
06/14/2000	3	Alder Flycatcher	2	4	60
06/14/2000	3	American Redstart	2	4	60
06/14/2000	3	Black Tern	1	4	60
06/14/2000	3	Brown-headed Cowbird	2	4	60
06/14/2000	3	Clay-colored Sparrow	1	4	60
06/14/2000	3	Common Yellowthroat	2	4	60
06/14/2000	3	Lincoln's Sparrow	1	4	60
06/14/2000	3	Mallard	12	4	60
06/14/2000	3	Marsh Wren	1	4	60
06/14/2000	3	Red-winged Blackbird	3	4	60
06/14/2000	3	Sora	2	4	60
06/14/2000	3	Swamp Sparrow	1	4	60
06/14/2000	3	Tree Swallow	1	4	60
06/14/2000	3	White-throated Sparrow	1	4	60
06/14/2000	4	Alder Flycatcher	3	4	60
06/14/2000	4	Chipping Sparrow	1	4	60
06/14/2000	4	Clay-colored Sparrow	2	4	60
06/14/2000	4	Common Yellowthroat	1	4	60
06/14/2000	4	Le Conte's Sparrow	3	4	60
06/14/2000	4	Red-winged Blackbird	5	4	60
06/14/2000	4	Ring-billed Gull	1	4	60
06/14/2000	4	Savannah Sparrow	1	4	60
06/14/2000	4	Swamp Sparrow	3	4	60
06/14/2000	4	Tree Swallow	1	4	60
06/14/2000	5	American Crow	1	4	60
06/14/2000	5	Black-billed Magpie	1	4	60
06/14/2000	5	Common Yellowthroat	2	4	60
06/14/2000	5	Le Conte's Sparrow	2	4	60
06/14/2000	5	Lincoln's Sparrow	2	4	60

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
06/14/2000	5	Mallard	3	4	60
06/14/2000	5	Red-eyed Vireo	1	4	60
06/14/2000	5	Red-winged Blackbird	3	4	60
06/14/2000	5	Sora	1	4	60
06/14/2000	5	White-throated Sparrow	1	4	60
06/14/2000	5	Yellow Warbler	1	4	60
06/14/2000	6	Alder Flycatcher	2	4	60
06/14/2000	6	Black Tern	3	4	60
06/14/2000	6	Black-bellied Plover	1	4	60
06/14/2000	6	Black-billed Magpie	1	4	60
06/14/2000	6	Chipping Sparrow	1	4	60
06/14/2000	6	Common Yellowthroat	2	4	60
06/14/2000	6	Franklin's Gull	3	4	60
06/14/2000	6	Killdeer	1	4	60
06/14/2000	6	Le Conte's Sparrow	2	4	60
06/14/2000	6	Marsh Wren	1	4	60
06/14/2000	6	Red-eyed Vireo	1	4	60
06/14/2000	6	Red-winged Blackbird	4	4	60
06/14/2000	6	Sora	1	4	60
06/14/2000	6	Unidentified Yellowlegs	1	4	60
06/14/2000	6	Yellow Warbler	1	4	60
06/14/2000	7	Alder Flycatcher	1	4	60
06/14/2000	7	Black & White Warbler	1	4	60
06/14/2000	7	Brown-headed Cowbird	1	4	60
06/14/2000	7	Clay-colored Sparrow	2	4	60
06/14/2000	7	Common Grackle	1	4	60
06/14/2000	7	Common Yellowthroat	4	4	60
06/14/2000	7	Lesser Yellowlegs	1	4	60
06/14/2000	7	Mourning Warbler	1	4	60
06/14/2000	7	Red-eyed Vireo	1	4	60
06/14/2000	7	Red-winged Blackbird	3	4	60
06/14/2000	7	Sora	2	4	60
06/14/2000	7	Swamp Sparrow	1	4	60
06/14/2000	7	White-throated Sparrow	1	4	60
06/14/2000	7	Yellow Warbler	1	4	60
06/14/2000	8	Alder Flycatcher	1	4	70
06/14/2000	8	American Redstart	1	4	70
06/14/2000	8	Black-capped Chickadee	1	4	70
06/14/2000	8	Chipping Sparrow	1	4	70
06/14/2000	8	Red-eyed Vireo	1	4	70
06/14/2000	8	Unidentified Songbird	1	4	70
06/14/2000	9	Alder Flycatcher	1	4	70
06/14/2000	9	Blue-wing Teal	10	4	70
06/14/2000	9	Olive-sided Flycatcher	1	4	70
06/14/2000	9	Philadelphia Vireo	1	4	70
06/14/2000	9	Red-eyed Vireo	2	4	70
06/14/2000	9	Savannah Sparrow	1	4	70
06/14/2000	9	Song Sparrow	2	4	70
06/14/2000	10	American Robin	1	3	70
06/14/2000	10	Alder Flycatcher	2	3	70

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
06/14/2000	10	Chipping Sparrow	1	3	70
06/14/2000	10	Killdeer	1	3	70
06/14/2000	10	Yellow-rumped Warbler	2	3	70
06/14/2000	10	Ovenbird	1	3	70
06/14/2000	11	Chipping Sparrow	1	5	60
06/14/2000	11	Common Grackle	1	5	60
06/14/2000	11	Least Flycatcher	3	5	60
06/14/2000	11	Red-eyed Vireo	2	5	60
06/14/2000	11	Rose-breasted Grosbeak	1	5	60
06/14/2000	11	White-throated Sparrow	1	5	60
06/14/2000	11	Yellow Warbler	2	5	60
06/14/2000	12	Mourning Warbler	1	5	60
06/14/2000	12	Northern Flicker	1	5	60
06/14/2000	12	Red-winged Blackbird	1	5	60
06/14/2000	12	Song Sparrow	1	5	60
06/14/2000	12	Warbling Vireo	1	5	60
06/14/2000	12	White-throated Sparrow	2	5	60
06/14/2000	12	Yellow Warbler	1	5	60
06/14/2000	13	American Robin	1	5	60
06/14/2000	13	Least Flycatcher	2	5	60
06/14/2000	13	Song Sparrow	1	5	60
06/14/2000	13	Swainson's Thrush	1	5	60
06/14/2000	13	Yellow Warbler	1	5	60
06/14/2000	14	Clay-colored Sparrow	1	5	60
06/14/2000	14	Least Flycatcher	1	5	60
06/14/2000	14	Lincoln's Sparrow	1	5	60
06/14/2000	14	Ovenbird	1	5	60
06/14/2000	14	Red-eyed Vireo	1	5	60
06/14/2000	14	Song Sparrow	1	5	60
06/14/2000	14	Swainson's Thrush	1	5	60
06/14/2000	14	White-throated Sparrow	1	5	60
06/14/2000	15	Bald Eagle	2	5	60
06/14/2000	15	Brown-headed Cowbird	1	5	60
06/14/2000	15	Chipping Sparrow	2	5	60
06/14/2000	15	Clay-colored Sparrow	1	5	60
06/14/2000	15	Least Flycatcher	1	5	60
06/14/2000	15	Mourning Warbler	1	5	60
06/14/2000	15	Red-eyed Vireo	1	5	60
06/14/2000	15	Song Sparrow	1	5	60
06/14/2000	15	Song Sparrow	1	5	60
06/14/2000	15	Warbling Vireo	3	5	60
06/14/2000	15	Western Tanager	1	5	60
06/14/2000	15	Yellow Warbler	1	5	60
06/14/2000	16	Brown-headed Cowbird	2	4	60
06/14/2000	16	Chipping Sparrow	1	4	60
06/14/2000	16	Least Flycatcher	3	4	60
06/14/2000	16	Lincoln's Sparrow	2	4	60
06/14/2000	16	Red-eyed Vireo	1	4	60
06/14/2000	16	Song Sparrow	1	4	60
06/14/2000	16	White-throated Sparrow	1	4	60

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
06/14/2000	16	Yellow Warbler	2	4	60
06/14/2000	16	Yellow-headed Blackbird	1	4	60
06/14/2000	17	Chipping Sparrow	2	4	60
06/14/2000	17	Clay-colored Sparrow	1	4	60
06/14/2000	17	Least Flycatcher	2	4	60
06/14/2000	17	Red-eyed Vireo	3	4	60
06/14/2000	17	Song Sparrow	1	4	60
06/14/2000	17	Sora	1	4	60
06/14/2000	17	White-throated Sparrow	1	4	60
06/14/2000	17	Yellow Warbler	3	4	60
06/14/2000	17	Yellow-headed Blackbird	1	4	60
06/14/2000	18	Chipping Sparrow	1	4	60
06/14/2000	18	Common Snipe	1	4	60
06/14/2000	18	Killdeer	1	4	60
06/14/2000	18	Least Flycatcher	2	4	60
06/14/2000	18	Mourning Warbler	1	4	60
06/14/2000	18	Ovenbird	1	4	60
06/14/2000	18	Red-eyed Vireo	1	4	60
06/14/2000	18	Sora	1	4	60
06/14/2000	18	Tennessee Warbler	1	4	60
06/14/2000	18	Yellow Warbler	4	4	60
06/14/2000	18	Yellow-headed Blackbird	1	4	60
06/14/2000	19	Ovenbird	1	4	60
06/14/2000	19	Least Flycatcher	2	4	60
06/14/2000	19	Yellow Warbler	1	4	60
06/14/2000	19	Swainson's Thrush	1	4	60
06/14/2000	19	Black-capped Chickadee	1	4	60
06/14/2000	19	Chipping Sparrow	1	4	60
06/14/2000	19	Red-eyed Vireo	1	4	60
06/14/2000	19	Song Sparrow	1	4	60
06/14/2000	19	White-throated Sparrow	1	4	60
06/14/2000	20	White-throated Sparrow	2	4	60
06/14/2000	20	Least Flycatcher	3	4	60
06/14/2000	20	Tree Swallow	1	4	60
06/14/2000	20	Olive-sided Flycatcher	1	4	60
06/14/2000	20	Red-winged Blackbird	3	4	60
06/14/2000	20	Common Snipe	1	4	60
06/14/2000	20	Yellow-headed Blackbird	1	4	60
06/14/2000	20	Yellow Warbler	2	4	60
06/14/2000	20	Chipping Sparrow	1	4	60
06/14/2000	20	Red-eyed Vireo	3	4	60
06/14/2000	20	Common Yellowthroat	1	4	60
06/15/2000	1	Sora	2	5	100
06/15/2000	1	Red-winged Blackbird	3	5	100
06/15/2000	1	Marsh Wren	1	5	100
06/15/2000	1	Alder Flycatcher	2	5	100
06/15/2000	1	Swamp Sparrow	2	5	100
06/15/2000	1	Common Yellowthroat	1	5	100
06/15/2000	1	Clay-colored Sparrow	2	5	100
06/15/2000	1	Lincoln's Sparrow	2	5	100

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
06/15/2000	1	Yellow Warbler	1	5	100
06/15/2000	2	Red-winged Blackbird	3	5	100
06/15/2000	2	Marsh Wren	2	5	100
06/15/2000	2	Sora	1	5	100
06/15/2000	2	Clay-colored Sparrow	2	5	100
06/15/2000	2	Swamp Sparrow	1	5	100
06/15/2000	2	Common Yellowthroat	1	5	100
06/15/2000	2	Alder Flycatcher	1	5	100
06/15/2000	2	Savannah Sparrow	2	5	100
06/15/2000	2	Lincoln's Sparrow	1	5	100
06/15/2000	2	Tree Swallow	1	5	100
06/15/2000	3	Red-winged Blackbird	4	5	100
06/15/2000	3	Sora	1	5	100
06/15/2000	3	Marsh Wren	1	5	100
06/15/2000	3	Swamp Sparrow	2	5	100
06/15/2000	3	Common Yellowthroat	2	5	100
06/15/2000	3	Clay-colored Sparrow	1	5	100
06/15/2000	3	Song Sparrow	1	5	100
06/15/2000	3	Alder Flycatcher	1	5	100
06/15/2000	3	Red-eyed Vireo	1	5	100
06/15/2000	3	American Redstart	1	5	100
06/15/2000	3	Yellow Warbler	1	5	100
06/15/2000	4	Red-winged Blackbird	4	5	100
06/15/2000	4	Alder Flycatcher	1	5	100
06/15/2000	4	Marsh Wren	1	5	100
06/15/2000	4	Swamp Sparrow	1	5	100
06/15/2000	4	Le Conte's Sparrow	2	5	100
06/15/2000	4	Lincoln's Sparrow	1	5	100
06/15/2000	4	Red-eyed Vireo	1	5	100
06/15/2000	4	Common Yellowthroat	1	5	100
06/15/2000	5	Sora	1	5	100
06/15/2000	5	Red-winged Blackbird	2	5	100
06/15/2000	5	Common Yellowthroat	3	5	100
06/15/2000	5	Swamp Sparrow	1	5	100
06/15/2000	5	Lincoln's Sparrow	1	5	100
06/15/2000	5	Le Conte's Sparrow	3	5	100
06/15/2000	5	Red-eyed Vireo	1	5	100
06/15/2000	5	Yellow Warbler	1	5	100
06/15/2000	5	Savannah Sparrow	1	5	100
06/15/2000	5	White-throated Sparrow	1	5	100
06/15/2000	5	Song Sparrow	1	5	100
06/15/2000	5	Alder Flycatcher	1	5	100
06/15/2000	6	Sora	1	5	100
06/15/2000	6	Red-winged Blackbird	1	5	100
06/15/2000	6	Swamp Sparrow	1	5	100
06/15/2000	6	Marsh Wren	1	5	100
06/15/2000	6	Common Yellowthroat	2	5	100
06/15/2000	6	Clay-colored Sparrow	2	5	100
06/15/2000	6	Alder Flycatcher	2	5	100
06/15/2000	6	Red-eyed Vireo	2	5	100

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
06/15/2000	6	American Crow	1	5	100
06/15/2000	6	White-throated Sparrow	1	5	100
06/15/2000	6	Le Conte's Sparrow	2	5	100
06/15/2000	7	Mourning Warbler	1	5	100
06/15/2000	7	Sora	4	5	100
06/15/2000	7	Black-bellied Plover	2	5	100
06/15/2000	7	Red-winged Blackbird	1	5	100
06/15/2000	7	Song Sparrow	2	5	100
06/15/2000	7	White-throated Sparrow	1	5	100
06/15/2000	7	Red-eyed Vireo	1	5	100
06/15/2000	7	Lincoln's Sparrow	2	5	100
06/15/2000	7	Yellow Warbler	1	5	100
06/15/2000	7	Alder Flycatcher	1	5	100
06/15/2000	7	Clay-colored Sparrow	1	5	100
06/15/2000	7	Common Yellowthroat	2	5	100
06/15/2000	8	Red-breasted Nuthatch	1	5	100
06/15/2000	8	Chipping Sparrow	1	5	100
06/15/2000	8	Yellow Warbler	1	5	100
06/15/2000	8	Red-eyed Vireo	2	5	100
06/15/2000	8	Yellow-rumped Warbler	2	5	100
06/15/2000	8	American Robin	1	5	100
06/15/2000	9	Red-breasted Nuthatch	1	5	100
06/15/2000	9	Chipping Sparrow	2	5	100
06/15/2000	9	Philadelphia Vireo	1	5	100
06/15/2000	9	Red-eyed Vireo	1	5	100
06/15/2000	9	Song Sparrow	1	5	100
06/15/2000	10	Red-eyed Vireo	1	5	100
06/15/2000	10	Killdeer	1	5	100
06/15/2000	10	Lincoln's Sparrow	1	5	100
06/15/2000	11	Chipping Sparrow	1	5	100
06/15/2000	11	Alder Flycatcher	1	5	100
06/15/2000	11	Yellow Warbler	1	5	100
06/15/2000	11	White-throated Sparrow	1	5	100
06/15/2000	12	Chipping Sparrow	1	5	100
06/15/2000	12	Least Flycatcher	1	5	100
06/15/2000	12	Alder Flycatcher	1	5	100
06/15/2000	12	White-throated Sparrow	1	5	100
06/15/2000	12	Yellow Warbler	1	5	100
06/15/2000	12	Song Sparrow	1	5	100
06/15/2000	13	American Robin	1	5	100
06/15/2000	13	Red-breasted Nuthatch	1	5	100
06/15/2000	13	Yellow Warbler	1	5	100
06/15/2000	13	Least Flycatcher	3	5	100
06/15/2000	13	Song Sparrow	1	5	100
06/15/2000	13	Alder Flycatcher	1	5	100
06/15/2000	14	Red-eyed Vireo	1	5	100
06/15/2000	14	Warbling Vireo	1	5	100
06/15/2000	14	Song Sparrow	1	5	100
06/15/2000	14	American Robin	1	5	100
06/15/2000	14	Bald Eagle	1	5	100

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
06/15/2000	14	Least Flycatcher	1	5	100
06/15/2000	14	Alder Flycatcher	1	5	100
06/15/2000	14	White-throated Sparrow	1	5	100
06/15/2000	14	Sora	1	5	100
06/15/2000	15	Western Tanager	1	5	100
06/15/2000	15	Least Flycatcher	2	5	100
06/15/2000	15	American Robin	1	5	100
06/15/2000	15	Song Sparrow	1	5	100
06/15/2000	15	Red-eyed Vireo	1	5	100
06/15/2000	15	White-throated Sparrow	1	5	100
06/15/2000	16	Least Flycatcher	1	3	100
06/15/2000	16	Yellow Warbler	1	3	100
06/15/2000	16	Bald Eagle	1	3	100
06/15/2000	16	American Robin	2	3	100
06/15/2000	16	American Crow	1	3	100
06/15/2000	17	Ovenbird	1	3	100
06/15/2000	17	Least Flycatcher	1	3	100
06/15/2000	17	Northern Flicker	1	3	100
06/15/2000	17	American Redstart	1	3	100
06/15/2000	17	Yellow Warbler	2	3	100
06/15/2000	17	Chipping Sparrow	2	3	100
06/15/2000	17	Sora	1	3	100
06/15/2000	17	White-throated Sparrow	1	3	100
06/15/2000	17	Clay-colored Sparrow	1	3	100
06/15/2000	18	Rose-breasted Grosbeak	1	3	100
06/15/2000	18	Alder Flycatcher	1	3	100
06/15/2000	18	Yellow Warbler	1	3	100
06/15/2000	18	Least Flycatcher	2	3	100
06/15/2000	18	Song Sparrow	1	3	100
06/15/2000	18	Lincoln's Sparrow	1	3	100
06/15/2000	18	Red-eyed Vireo	1	3	100
06/15/2000	18	Chipping Sparrow	1	3	100
06/15/2000	19	Least Flycatcher	3	3	100
06/15/2000	19	American Robin	1	3	100
06/15/2000	19	Ovenbird	1	3	100
06/15/2000	19	Yellow Warbler	2	3	100
06/15/2000	19	Alder Flycatcher	1	3	100
06/15/2000	19	Red-eyed Vireo	1	3	100
06/15/2000	19	Olive-sided Flycatcher	1	3	100
06/15/2000	19	Tennessee Warbler	1	3	100
06/15/2000	19	Red-winged Blackbird	1	3	100
06/15/2000	20	Sora	1	3	100
06/15/2000	20	American Redstart	2	3	100
06/15/2000	20	Least Flycatcher	1	3	100
06/15/2000	20	Yellow Warbler	4	3	100
06/15/2000	20	Olive-sided Flycatcher	1	3	100
06/15/2000	20	Chipping Sparrow	1	3	100
06/15/2000	20	White-throated Sparrow	2	3	100
06/15/2000	20	Red-eyed Vireo	1	3	100
06/15/2000	20	American Robin	1	3	100

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
06/15/2000	17	Northern Redstart	1	3	100
06/15/2000	17	Yellow Warbler	2	3	100
06/15/2000	17	Chipping Sparrow	2	3	100
06/15/2000	17	Sora	1	3	100
06/15/2000	17	White-throated Sparrow	1	3	100
06/15/2000	17	Clay-colored Sparrow	1	3	100
06/15/2000	18	Rose-breasted Grosbeak	1	3	100
06/15/2000	18	Alder Flycatcher	1	3	100
06/15/2000	18	Yellow Warbler	1	3	100
06/15/2000	18	Least Flycatcher	2	3	100
06/15/2000	18	Song Sparrow	1	3	100
06/15/2000	18	Lincoln's Sparrow	1	3	100
06/15/2000	18	Red-eyed Vireo	1	3	100
06/15/2000	18	Chipping Sparrow	1	3	100
06/15/2000	19	Least Flycatcher	3	3	100
06/15/2000	19	American Robin	1	3	100
06/15/2000	19	Ovenbird	1	3	100
06/15/2000	19	Yellow Warbler	2	3	100
06/15/2000	19	Alder Flycatcher	1	3	100
06/15/2000	19	Red-eyed Vireo	1	3	100
06/15/2000	19	Olive-sided Flycatcher	1	3	100
06/15/2000	19	Tennessee Warbler	1	3	100
06/15/2000	19	Red-winged Blackbird	1	3	100
06/15/2000	20	Sora	1	3	100
06/15/2000	20	Northern Redstart	2	3	100
06/15/2000	20	Least Flycatcher	1	3	100
06/15/2000	20	Yellow Warbler	4	3	100
06/15/2000	20	Olive-sided Flycatcher	1	3	100
06/15/2000	20	Chipping Sparrow	1	3	100
06/15/2000	20	White-throated Sparrow	2	3	100
06/15/2000	20	Red-eyed Vireo	1	3	100
06/15/2000	20	American Robin	1	3	100
08/15/2000	1	American Robin	1	1	5
08/15/2000	1	Chipping Sparrow	1	1	5
08/15/2000	1	Black-capped Chickadee	2	1	5
08/15/2000	2	Red-breasted Nuthatch	1	1	5
08/15/2000	2	Cedar Waxwing	5	1	5
08/15/2000	2	Black-billed Magpie	1	1	5
08/15/2000	2	Song Sparrow	1	1	5
08/15/2000	3	Killdeer	1	1	5
08/15/2000	3	Mallard	1	1	5
08/15/2000	3	Lincoln's Sparrow	1	1	5
08/15/2000	3	Red-breasted Nuthatch	1	1	5
08/15/2000	3	Black-capped Chickadee	2	1	5
08/15/2000	4	Red-breasted Nuthatch	1	2	5
08/15/2000	4	Black-capped Chickadee	4	2	5
08/15/2000	4	Black-billed Magpie	6	2	5
08/15/2000	5	Red-breasted Nuthatch	3	2	5
08/15/2000	5	Killdeer	2	2	5
08/15/2000	5	Lincoln's Sparrow	1	2	5

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
08/15/2000	5	Swamp Sparrow	1	2	5
08/15/2000	6	Killdeer	1	2	5
08/15/2000	6	Black-capped Chickadee	3	2	5
08/15/2000	6	Red-tailed Hawk	2	2	5
08/15/2000	6	American Robin	2	2	5
08/15/2000	7	White-throated Sparrow	1	2	5
08/15/2000	7	Black-billed Magpie	1	2	5
08/15/2000	7	American Robin	1	2	5
08/15/2000	8	Song Sparrow	1	2	5
08/15/2000	8	Red-breasted Nuthatch	2	2	5
08/15/2000	8	Black-capped Chickadee	8	2	5
08/15/2000	8	American Robin	1	2	5
08/15/2000	9	Clay-colored Sparrow	1	2	5
08/15/2000	9	Blue Jay	2	2	5
08/15/2000	10	Chipping Sparrow	3	2	5
08/15/2000	10	Yellow-rumped Warbler	2	2	5
08/15/2000	11	Chipping Sparrow	11	2	5
08/15/2000	11	Canada Goose	18	2	5
08/15/2000	12	Chipping Sparrow	2	2	5
08/15/2000	12	Cedar Waxwing	3	2	5
08/15/2000	13	American Robin	3	2	5
08/15/2000	13	Black-billed Magpie	2	2	5
08/15/2000	13	Bald Eagle	1	2	5
08/15/2000	13	Lesser Yellowlegs	2	2	5
08/15/2000	14	Bald Eagle	2	2	5
08/15/2000	15	Blue Jay	1	2	5
08/15/2000	15	Black-capped Chickadee	5	2	5
08/15/2000	15	Canada Goose	6	2	5
08/15/2000	16	Bald Eagle	1	2	5
08/15/2000	16	Northern Harrier	1	2	5
08/15/2000	16	Lesser Yellowlegs	2	2	5
08/15/2000	17	Canada Goose	2	2	5
08/15/2000	17	Chipping Sparrow	3	2	5
08/15/2000	17	Yellow-rumped Warbler	3	2	5
08/15/2000	17	Yellow Warbler	2	2	5
08/15/2000	18	Yellow-rumped Warbler	2	2	5
08/15/2000	18	Black-capped Chickadee	5	2	5
08/15/2000	19	Bald Eagle	2	2	5
08/15/2000	19	Killdeer	1	2	5
08/15/2000	19	Mallard	3	2	5
08/15/2000	19	Unidentified Songbird	21	2	5
08/15/2000	20	Red-tailed Hawk	1	2	5
08/15/2000	20	Northern Harrier	1	2	5
08/15/2000	20	Black-capped Chickadee	6	2	5
08/16/2000	1	Tree Swallow	2	2	100
08/16/2000	1	Black-capped Chickadee	3	2	100
08/16/2000	2	American Robin	1	2	100
08/16/2000	2	Mallard	2	2	100
08/16/2000	2	Canada Goose	16	2	100
08/16/2000	3	Black-capped Chickadee	1	2	100

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
08/16/2000	3	Red-breasted Nuthatch	1	2	100
08/16/2000	4	Red-breasted Nuthatch	1	2	100
08/16/2000	5	Red-breasted Nuthatch	1	2	100
08/16/2000	5	Red-tailed Hawk	1	2	100
08/16/2000	6	American Robin	1	2	100
08/16/2000	7	Swamp Sparrow	1	2	100
08/16/2000	7	Lincoln's Sparrow	1	2	100
08/16/2000	7	Black-capped Chickadee	4	2	100
08/16/2000	8	Blue Jay	1	2	100
08/16/2000	9	Lincoln's Sparrow	1	2	100
08/16/2000	10	Red-breasted Nuthatch	2	2	100
08/16/2000	11	Chipping Sparrow	3	3	100
08/16/2000	11	Bald Eagle	1	3	100
08/16/2000	12	Northern Harrier	1	3	100
08/16/2000	13	Black-capped Chickadee	2	3	100
08/16/2000	13	Northern Harrier	1	3	100
08/16/2000	14	Chipping Sparrow	3	3	100
08/16/2000	14	Bald Eagle	1	3	100
08/16/2000	14	Black-capped Chickadee	5	3	100
08/16/2000	15	Boreal Chickadee	3	3	100
08/16/2000	15	Chipping Sparrow	2	3	100
08/16/2000	15	Lesser Yellowlegs	3	3	100
08/16/2000	16	Bald Eagle	1	3	100
08/16/2000	16	Black-capped Chickadee	4	3	100
08/16/2000	16	Chipping Sparrow	3	3	100
08/16/2000	16	Northern Harrier	1	3	100
08/16/2000	17	Northern Flicker	1	3	100
08/16/2000	17	Canada Goose	6	3	100
08/16/2000	17	Chipping Sparrow	1	3	100
08/16/2000	17	Black-capped Chickadee	4	3	100
08/16/2000	17	Killdeer	1	3	100
08/16/2000	18	Bald Eagle	1	3	100
08/16/2000	18	Black-capped Chickadee	1	3	100
08/16/2000	18	Boreal Chickadee	2	3	100
08/16/2000	18	Killdeer	1	3	100
08/16/2000	18	Yellow Warbler	1	3	100
08/16/2000	19	American Robin	1	3	100
08/16/2000	19	Black-capped Chickadee	5	3	100
08/16/2000	19	White-throated Sparrow	1	3	100
08/16/2000	20	Red-tailed Hawk	1	3	100
08/16/2000	20	Bald Eagle	1	3	100
08/16/2000	20	Lesser Yellowlegs	2	3	100
08/16/2000	20	Black-capped Chickadee	1	3	100
08/22/2000	1	American Robin	1	4	25
08/22/2000	2	Tree Swallow	2	4	25
08/22/2000	2	Canada Goose	7	4	25
08/22/2000	2	Killdeer	1	4	25
08/22/2000	3	Black-capped Chickadee	5	4	25
08/22/2000	3	Red-breasted Nuthatch	1	4	25
08/22/2000	3	Swamp Sparrow	1	4	25

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
08/22/2000	3	Lincoln's Sparrow	1	4	25
08/22/2000	3	Clay-colored Sparrow	1	4	25
08/22/2000	4	Red-breasted Nuthatch	1	4	25
08/22/2000	4	Red-tailed Hawk	1	4	25
08/22/2000	5	Red-breasted Nuthatch	2	4	25
08/22/2000	5	Black-capped Chickadee	9	4	25
08/22/2000	6	American Robin	2	4	25
08/22/2000	6	Blue Jay	1	4	25
08/22/2000	6	Black-billed Magpie	1	4	25
08/22/2000	7	Black-billed Magpie	1	4	25
08/22/2000	7	White-throated Sparrow	1	4	25
08/22/2000	7	Lesser Yellowlegs	1	4	25
08/22/2000	8	American Robin	1	4	25
08/22/2000	9	Blue Jay	1	4	25
08/22/2000	9	Clay-colored Sparrow	1	4	25
08/22/2000	10	Chipping Sparrow	1	4	25
08/22/2000	10	Black-billed Magpie	1	4	25
08/22/2000	11	Common Raven	2	3	35
08/22/2000	12	Common Raven	2	3	35
08/22/2000	12	Chipping Sparrow	1	3	35
08/22/2000	13	Black-capped Chickadee	5	3	35
08/22/2000	13	American Crow	1	3	35
08/22/2000	13	Lesser Yellowlegs	1	3	35
08/22/2000	14	Bald Eagle	2	3	35
08/22/2000	14	Chipping Sparrow	1	3	35
08/22/2000	14	White-throated Sparrow	1	3	35
08/22/2000	15	Song Sparrow	1	3	35
08/22/2000	16	Bald Eagle	1	4	30
08/22/2000	17	Bald Eagle	1	4	30
08/22/2000	18	Song Sparrow	1	4	30
08/22/2000	18	Chipping Sparrow	1	4	30
08/22/2000	18	Yellow-rumped Warbler	2	4	30
08/22/2000	19	Lesser Yellowlegs	1	4	30
08/22/2000	19	Yellow-rumped Warbler	2	4	30
08/22/2000	19	Black-capped Chickadee	5	4	30
08/22/2000	20	Black-capped Chickadee	7	4	30
08/22/2000	20	Lincoln's Sparrow	2	4	30
08/22/2000	20	Song Sparrow	1	4	30
08/22/2000	20	White-throated Sparrow	1	4	30
08/23/2000	1	American Widgeon	1	3	0
08/23/2000	1	Mallard	1	3	0
08/23/2000	1	Lesser Yellowlegs	1	3	0
08/23/2000	1	Common Raven	1	3	0
08/23/2000	1	Clay-colored Sparrow	1	3	0
08/23/2000	2	Swamp Sparrow	2	3	0
08/23/2000	2	Canada Goose	1	3	0
08/23/2000	2	American Widgeon	1	3	0
08/23/2000	2	Clay-colored Sparrow	1	3	0
08/23/2000	3	Swamp Sparrow	1	3	0
08/23/2000	3	Black-capped Chickadee	4	3	0

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
08/23/2000	4	Red-breasted Nuthatch	1	3	0
08/23/2000	4	Black-capped Chickadee	4	3	0
08/23/2000	5	Swamp Sparrow	1	3	0
08/23/2000	5	Clay-colored Sparrow	1	3	0
08/23/2000	5	Red-breasted Nuthatch	2	3	0
08/23/2000	5	Black-capped Chickadee	2	3	0
08/23/2000	5	Red-tailed Hawk	1	3	0
08/23/2000	6	Bald Eagle	1	3	0
08/23/2000	6	American Crow	1	3	0
08/23/2000	6	American Robin	1	3	0
08/23/2000	7	Lesser Yellowlegs	1	3	0
08/23/2000	7	Clay-colored Sparrow	1	3	0
08/23/2000	7	Blue Jay	1	3	0
08/23/2000	8	Blue Jay	1	3	0
08/23/2000	8	Tree Swallow	2	3	0
08/23/2000	8	Black-billed Magpie	1	3	0
08/23/2000	9	Black-billed Magpie	3	3	0
08/23/2000	10	Boreal Chickadee	3	3	0
08/23/2000	10	Black-capped Chickadee	4	3	0
08/23/2000	10	Wilson's Warbler	1	3	0
08/23/2000	10	Red-breasted Nuthatch	2	3	0
08/23/2000	10	Unidentified Flycatcher	2	3	0
08/23/2000	11	Chipping Sparrow	12	3	0
08/23/2000	11	Black-capped Chickadee	9	3	0
08/23/2000	11	Common Raven	1	3	0
08/23/2000	12	Song Sparrow	1	3	0
08/23/2000	12	White-throated Sparrow	1	3	0
08/23/2000	12	Chipping Sparrow	5	3	0
08/23/2000	12	Northern Flicker	1	3	0
08/23/2000	12	Hairy Woodpecker	2	3	0
08/23/2000	13	Bald Eagle	3	3	0
08/23/2000	13	Hairy Woodpecker	2	3	0
08/23/2000	13	Black-capped Chickadee	3	3	0
08/23/2000	13	Cedar Waxwing	3	3	0
08/23/2000	14	Bald Eagle	2	3	0
08/23/2000	14	Black-capped Chickadee	4	3	0
08/23/2000	14	Chipping Sparrow	1	3	0
08/23/2000	14	American Robin	1	3	0
08/23/2000	15	Bald Eagle	1	3	0
08/23/2000	15	White-throated Sparrow	1	3	0
08/23/2000	16	Northern Harrier	1	3	0
08/23/2000	16	Lesser Yellowlegs	1	3	0
08/23/2000	16	Mallard	2	3	0
08/23/2000	17	Chipping Sparrow	1	3	0
08/23/2000	17	Cedar Waxwing	1	3	0
08/23/2000	17	American Robin	1	3	0
08/23/2000	17	Bald Eagle	2	3	0
08/23/2000	18	Yellow-rumped Warbler	2	3	0
08/23/2000	18	Northern Flicker	1	3	0
08/23/2000	18	Bald Eagle	1	3	0

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
08/23/2000	19	Bald Eagle	1	3	0
08/23/2000	19	Blue Jay	1	3	0
08/23/2000	20	Chipping Sparrow	2	3	0
08/23/2000	20	Black-capped Chickadee	2	3	0
08/23/2000	20	Unidentified Songbird	9	3	0
08/30/2000	1	American Robin	2	2	0
08/30/2000	1	American Crow	1	2	0
08/30/2000	1	Lesser Yellowlegs	2	2	0
08/30/2000	1	Mallard	3	2	0
08/30/2000	1	Canada Goose	16	2	0
08/30/2000	2	Tree Swallow	2	2	0
08/30/2000	2	Black-capped Chickadee	5	2	0
08/30/2000	2	Red-breasted Nuthatch	1	2	0
08/30/2000	2	Yellow Warbler	2	2	0
08/30/2000	3	Alder Flycatcher	1	2	0
08/30/2000	3	Black-capped Chickadee	3	2	0
08/30/2000	3	Swamp Sparrow	1	2	0
08/30/2000	4	Red-breasted Nuthatch	2	2	0
08/30/2000	4	Red-tailed Hawk	1	2	0
08/30/2000	4	Common Raven	2	2	0
08/30/2000	5	Red-breasted Nuthatch	1	2	0
08/30/2000	5	Le Conte's Sparrow	2	2	0
08/30/2000	5	Black-capped Chickadee	3	2	0
08/30/2000	6	American Robin	1	2	0
08/30/2000	6	Tennessee Warble	1	2	0
08/30/2000	7	Blue Jay	2	2	0
08/30/2000	7	Red-breasted Nuthatch	1	2	0
08/30/2000	7	Black-capped Chickadee	2	2	0
08/30/2000	8	Song Sparrow	1	2	0
08/30/2000	9	Red-tailed Hawk	1	2	0
08/30/2000	9	Killdeer	3	2	0
08/30/2000	10	Wilson's Warbler	1	2	0
08/30/2000	10	Red-breasted Nuthatch	2	2	0
08/30/2000	10	Least Flycatcher	2	2	0
08/30/2000	10	Boreal Chickadee	3	2	0
08/30/2000	11	Chipping Sparrow	8	2	0
08/30/2000	11	Common Raven	2	2	0
08/30/2000	11	Northern Harrier	1	2	0
08/30/2000	11	Black-capped Chickadee	4	2	0
08/30/2000	11	Northern Flicker	1	2	0
08/30/2000	12	Hairy Woodpecker	2	2	0
08/30/2000	12	Song Sparrow	1	2	0
08/30/2000	13	Black-capped Chickadee	2	2	0
08/30/2000	13	Black-billed Magpie	3	2	0
08/30/2000	13	Unidentified Songbird	11	2	0
08/30/2000	14	Black-capped Chickadee	6	2	0
08/30/2000	15	Bald Eagle	2	2	0
08/30/2000	15	Northern Harrier	1	2	0
08/30/2000	16	American Robin	1	2	0
08/30/2000	17	Bald Eagle	1	2	0

Date	Station	Species	Nbr Seen/Heard	Wind1	Cloud2 (%)
08/30/2000	17	Song Sparrow	1	2	0
08/30/2000	17	Yellow-rumped Warbler	3	2	0
08/30/2000	17	Yellow Warbler	2	2	0
08/30/2000	18	Boreal Chickadee	5	2	0
08/30/2000	18	Black-capped Chickadee	12	2	0
08/30/2000	19	Mallard	1	2	0
08/30/2000	19	Lesser Yellowlegs	2	2	0
08/30/2000	19	Killdeer	3	2	0
08/30/2000	19	White-throated Sparrow	1	2	0
08/30/2000	19	Boreal Chickadee	6	2	0
08/30/2000	20	Lesser Yellowlegs	1	2	0
08/30/2000	20	Cedar Waxwing	3	2	0
08/30/2000	20	Black-billed Magpie	7	2	0
08/30/2000	20	Common Raven	2	2	0
08/30/2000	20	Canada Goose	37	2	0

Appendix 2

Waterfowl Transect and Boardwalk Count Data,

Kimiwan Lake, 2000

Date	Species	Nbr Seen
05/20/00	Canada Goose	4
05/20/00	Green-wing Teal	2
05/20/00	Killdeer	3
05/20/00	Northern Shoveler	2
05/20/00	Unidentified Diver	33
05/21/00	American Avocet	1
05/21/00	American Coot	1
05/21/00	Black-bellied Plover	1
05/21/00	Blue-wing Teal	7
05/21/00	Eared Grebe	6
05/21/00	Northern Shoveler	1
05/21/00	Redhead	2
05/21/00	Semipalmated Plover	1
05/21/00	Unidentified Sandpiper	1
05/25/00	American Coot	4
05/25/00	Blue-wing Teal	11
05/25/00	Bufflehead	2
05/25/00	Canada Goose	1
05/25/00	Eared Grebe	9
05/25/00	Northern Shoveler	1
05/25/00	Redhead	2
05/25/00	Unidentified Yellowlegs	6
05/26/00	Blue-wing Teal	12
05/26/00	Eared Grebe	4
05/26/00	Gadwall	2
05/26/00	Redhead	2
05/26/00	Unidentified Sandpiper	32
05/26/00	Unidentified Yellowlegs	1
06/01/00	American Coot	13
06/01/00	Blue-wing Teal	4
06/01/00	Bufflehead	8
06/01/00	Canada Goose	2
06/01/00	Killdeer	1
06/01/00	Unidentified Goldeneye	15
06/01/00	Unidentified Sandpiper	26
06/02/00	American Coot	7
06/02/00	Bufflehead	5
06/02/00	Canada Goose	1
06/02/00	Killdeer	3
06/02/00	Unidentified Goldeneye	15
06/02/00	Unidentified Sandpiper	16
06/14/00	American Widgeon	8
06/14/00	Blue-wing Teal	34
06/14/00	Bufflehead	2
06/14/00	Gadwall	2
06/14/00	Green-wing Teal	1
06/14/00	Killdeer	5
06/14/00	Mallard	3
06/14/00	Northern Shoveler	9
06/15/00	Blue-wing Teal	12

Date	Species	Nbr Seen
05/21/00	American Avocet	4
05/21/00	American Coot	2
05/21/00	American Widgeon	2
05/21/00	Blue-wing Teal	97
05/21/00	Buffelhead	42
05/21/00	Canvasback	8
05/21/00	Cinnamon Teal	1
05/21/00	Common Goldeye	37
05/21/00	Eared Grebe	75
05/21/00	Gadwall	27
05/21/00	Green-wing Teal	5
05/21/00	Lesser Scaup	36
05/21/00	Lesser Yellowlegs	3
05/21/00	Long-billed Dowitcher	7
05/21/00	Mallard	31
05/21/00	Northern Pintail	14
05/21/00	Northern Shoveler	49
05/21/00	Oldsquaw	50
05/21/00	Redhead	23
05/21/00	Ruddy Duck	20
05/21/00	Semipalmated Plover	7
05/21/00	Sora	2
05/21/00	Spotted Sandpiper	2
05/21/00	Wilson's Phalarope	1
05/25/00	American Avocet	10
05/25/00	American Widgeon	3
05/25/00	Blue-wing Teal	77
05/25/00	Buffelhead	45
05/25/00	Common Goldeye	19
05/25/00	Eared Grebe	25
05/25/00	Gadwall	25
05/25/00	Green-wing Teal	3
05/25/00	Lesser Scaup	1
05/25/00	Lesser Yellowlegs	3
05/25/00	Long-billed Dowitcher	5
05/25/00	Mallard	71
05/25/00	Northern Pintail	25
05/25/00	Northern Shoveler	105
05/25/00	Oldsquaw	9
05/25/00	Red-necked Phalarope	1
05/25/00	Redhead	2
05/25/00	Ruddy Duck	10
05/25/00	Semipalmated Plover	4
05/25/00	Spotted Sandpiper	1
05/25/00	Unidentified Sandpiper	42
05/25/00	Unidentified Yellowlegs	2
05/25/00	Wilson's Phalarope	6
05/26/00	American Avocet	14
05/26/00	American Widgeon	11
05/26/00	Blue-wing Teal	69

06/15/00	Bufflehead	4
06/15/00	Canada Goose	2
06/15/00	Green-wing Teal	7
06/15/00	Killdeer	1
06/15/00	Mallard	4
06/15/00	Northern Shoveler	3
08/15/00	Blue-wing Teal	9
08/15/00	Canada Goose	26
08/15/00	Gadwall	17
08/15/00	Lesser Yellowlegs	15
08/15/00	Northern Shoveler	8
08/15/00	Unidentified Dabbling	65
08/16/00	Canada Goose	32
08/16/00	Gadwall	5
08/16/00	Lesser Yellowlegs	20
08/16/00	Unidentified Dabbling	36
08/22/00	Blue-wing Teal	2
08/22/00	Gadwall	1
08/22/00	Greater Yellowlegs	1
08/22/00	Lesser Yellowlegs	31
08/22/00	Unidentified Dabbling	90
08/23/00	American Widgeon	7
08/23/00	Blue-wing Teal	3
08/23/00	Gadwall	6
08/23/00	Green-wing Teal	3
08/23/00	Killdeer	1
08/23/00	Lesser Yellowlegs	23
08/23/00	Mallard	14
08/23/00	Unidentified Dabbling	80
08/30/00	Canada Goose	48
08/30/00	Lesser Yellowlegs	25
08/30/00	Pectoral Sandpiper	33
08/30/00	Unidentified Dabbling	106
08/30/00	Unidentified Sandpiper	30

**West Species Count  
(Waterfowl/Shorebirds)**

Date	Species	Nbr Seen
05/20/00	Black-bellied Plover	5
05/20/00	Blue-wing Teal	55
05/20/00	Buffelhead	6
05/20/00	Eared Grebe	3
05/20/00	Gadwall	2
05/20/00	Green-wing Teal	5
05/20/00	Mallard	30
05/20/00	Northern Pintail	9
05/20/00	Northern Shoveler	63
05/20/00	Unidentified Sandpiper	21
05/21/00	American Avocet	6

05/26/00	Buffelhead	31
05/26/00	Canada Goose	1
05/26/00	Common Goldeye	2
05/26/00	Eared Grebe	34
05/26/00	Green-wing Teal	5
05/26/00	Long-billed Dowitcher	10
05/26/00	Mallard	35
05/26/00	Northern Pintail	11
05/26/00	Northern Shoveler	75
05/26/00	Oldsquaw	2
05/26/00	Red-necked Phalarope	5
05/26/00	Redhead	9
05/26/00	Ruddy Duck	31
05/26/00	Unidentified Sandpiper	35
05/26/00	Wilson's Phalarope	3
06/01/00	American Avocet	23
06/01/00	American Widgeon	9
06/01/00	Blue-wing Teal	72
06/01/00	Buffelhead	10
06/01/00	Cinnamon Teal	1
06/01/00	Common Goldeye	4
06/01/00	Gadwall	7
06/01/00	Green-wing Teal	8
06/01/00	Long-billed Dowitcher	48
06/01/00	Killdeer	1
06/01/00	Mallard	48
06/01/00	Northern Pintail	1
06/01/00	Northern Shoveler	83
06/01/00	Red-necked Phalarope	7
06/01/00	Ruddy Duck	2
06/01/00	Unidentified Sandpiper	35
06/01/00	Wilson's Phalarope	18
06/02/00	American Avocet	33
06/02/00	American Golden Plover	1
06/02/00	American Widgeon	7
06/02/00	Blue-wing Teal	78
06/02/00	Buffelhead	20
06/02/00	Eared Grebe	46
06/02/00	Gadwall	7
06/02/00	Green-wing Teal	8
06/02/00	Lesser Scaup	2
06/02/00	Mallard	47
06/02/00	Northern Pintail	9
06/02/00	Northern Shoveler	227
06/02/00	Red-necked Phalarope	18
06/02/00	Redhead	5
06/02/00	Ruddy Duck	1
06/02/00	Wilson's Phalarope	15
06/11/00	American Avocet	6

05/21/00	Blue-wing Teal	51	06/11/00	American Widgeon	6
05/21/00	Canvasback	8	06/11/00	Blue-wing Teal	118
05/21/00	Cinnamon Teal	1	06/11/00	Buffelhead	5
05/21/00	Common Goldeye	37	06/11/00	Canvasback	1
05/21/00	Green-wing Teal	3	06/11/00	Eared Grebe	18
05/21/00	Long-billed Dowitcher	39	06/11/00	Gadwall	18
05/21/00	Mallard	45	06/11/00	Green-wing Teal	5
05/21/00	Northern Shoveler	54	06/11/00	Mallard	49
05/21/00	Semipalmated Plover	12	06/11/00	Northern Pintail	15
05/21/00	Unidentified Dabbling	11	06/11/00	Northern Shoveler	152
05/25/00	Blue-wing Teal	30	06/11/00	Redhead	5
05/25/00	Buffelhead	15	06/14/00	American Avocet	6
05/25/00	Common Goldeye	3	06/14/00	American Widgeon	21
05/25/00	Eared Grebe	2	06/14/00	Blue-wing Teal	38
05/25/00	Green-wing Teal	7	06/14/00	Buffelhead	12
05/25/00	Mallard	31	06/14/00	Canvasback	9
05/25/00	Northern Pintail	39	06/14/00	Common Goldeye	7
05/25/00	Northern Shoveler	57	06/14/00	Eared Grebe	14
05/25/00	Unidentified Sandpiper	31	06/14/00	Gadwall	12
05/26/00	Black-bellied Plover	22	06/14/00	Green-wing Teal	3
05/26/00	Blue-wing Teal	43	06/14/00	Lesser Scaup	12
05/26/00	Buffelhead	45	06/14/00	Mallard	27
05/26/00	Common Goldeye	2	06/14/00	Northern Pintail	14
05/26/00	Long-billed Dowitcher	33	06/14/00	Northern Shoveler	126
05/26/00	Mallard	29	06/14/00	Red-necked Phalarope	0
05/26/00	Northern Pintail	10	06/14/00	Redhead	25
05/26/00	Northern Shoveler	59	06/14/00	Unidentified Dabbling	20
05/26/00	Unidentified Sandpiper	44	06/14/00	Unidentified Diver	50
06/01/00	American Avocet	7	06/15/00	American Avocet	10
06/02/00	Black-bellied Plover	6	06/15/00	American Coot	3
06/02/00	Blue-wing Teal	73	06/15/00	American Widgeon	2
06/02/00	Eared Grebe	4	06/15/00	Barrow's Goldeneye	9
06/02/00	Green-wing Teal	5	06/15/00	Blue-wing Teal	6
06/02/00	Killdeer	1	06/15/00	Buffelhead	15
06/02/00	Mallard	47	06/15/00	Canvasback	1
06/02/00	Marbled Godwit	5	06/15/00	Common Goldeye	1
06/02/00	Northern Pintail	9	06/15/00	Eared Grebe	15
06/01/00	Northern Shoveler	59	06/15/00	Gadwall	24
06/02/00	American Avocet	4	06/15/00	Mallard	6
06/02/00	American Widgeon	6	06/15/00	Northern Shoveler	73
06/02/00	Black-bellied Plover	3	06/15/00	Redhead	5
06/02/00	Blue-wing Teal	63	08/15/00	American Coot	350
06/02/00	Eared Grebe	1	08/15/00	American Widgeon	55
06/02/00	Killdeer	5	08/15/00	Blue-wing Teal	32
06/02/00	Mallard	45	08/15/00	Gadwall	30
06/02/00	Marbled Godwit	7	08/15/00	Greater Yellowlegs	54
06/02/00	Northern Pintail	14	08/15/00	Green-wing Teal	10
06/02/00	Northern Shoveler	65	08/15/00	Killdeer	7
06/02/00	Sora	1	08/15/00	Lesser Yellowlegs	33
06/11/00	American Avocet	2	08/15/00	Northern Pintail	5
06/11/00	American Widgeon	17	08/15/00	Northern Shoveler	68

06/11/00	Blue-wing Teal	34	08/15/00	Semipalmated Plover	15
06/11/00	Green-wing Teal	13	08/15/00	Solitary Sandpiper	1
06/11/00	Mallard	7	08/15/00	Unidentified Dabbler	4000
06/11/00	Marbled Godwit	1	08/16/00	American Coot	342
06/11/00	Northern Pintail	16	08/16/00	Blue-wing Teal	1
06/11/00	Northern Shoveler	65	08/16/00	Canvasback	3
06/14/00	American Avocet	2	08/16/00	Gadwall	1
06/14/00	Blue-wing Teal	22	08/16/00	Greater Yellowlegs	2
06/14/00	Green-wing Teal	2	08/16/00	Killdeer	18
06/14/00	Lesser Yellowlegs	1	08/16/00	Lesser Scaup	1
06/14/00	Killdeer	7	08/16/00	Lesser Yellowlegs	26
06/14/00	Mallard	44	08/16/00	Long-billed Dowitcher	3
06/14/00	Marbled Godwit	2	08/16/00	Mallard	1
06/15/00	American Avocet	5	08/16/00	Semipalmated Plover	10
06/15/00	American Widgeon	6	08/16/00	Unidentified Dabbler	4000
06/15/00	Blue-wing Teal	42	08/22/00	American Coot	427
06/15/00	Buffelhead	2	08/22/00	Canvasback	2
06/15/00	Gadwall	11	08/22/00	Cinnamon Teal	1
06/15/00	Green-wing Teal	57	08/22/00	Eared Grebe	1
06/15/00	Killdeer	1	08/22/00	Green-wing Teal	7
06/15/00	Mallard	33	08/22/00	Killdeer	6
06/15/00	Northern Pintail	7	08/22/00	Lesser Yellowlegs	9
06/15/00	Northern Shoveler	129	08/23/00	Lesser Yellowlegs	59
06/15/00	Red-necked Phalarope	2	08/23/00	Canvasback	2
06/15/00	Ruddy Duck	3	08/23/00	Unidentified Dabbler	2600
06/15/00	Sora	1	08/23/00	Green-wing Teal	5
06/15/00	Unidentified Diver	47	08/23/00	Killdeer	3
06/15/00	Unidentified Gull	136	08/23/00	Long-billed Dowitcher	2
08/15/00	American Avocet	1	08/23/00	Greater Yellowlegs	3
08/15/00	Black-bellied Plover	17	08/23/00	Pectoral Sandpiper	1
08/15/00	Blue-wing Teal	9	08/23/00	Buffelhead	8
08/15/00	Killdeer	1	08/23/00	American Coot	350
08/15/00	Lesser Yellowlegs	15	08/23/00	Canada Goose	15
08/15/00	Northern Pintail	3	08/29/00	American Widgeon	2
08/15/00	Northern Shoveler	6	08/29/00	Baird's Sandpiper	2
08/15/00	Semipalmated Plover	3	08/29/00	Buffelhead	7
08/15/00	Unidentified Dabbler	90	08/29/00	Canada Goose	16
08/16/00	Black-bellied Plover	25	08/29/00	Canvasback	2
08/16/00	Killdeer	10	08/29/00	Double-crested Cormorant	1
08/16/00	Lesser Yellowlegs	13	08/29/00	Killdeer	6
08/16/00	Unidentified Dabbler	150	08/29/00	Least Sandpiper	3
08/16/00	Unidentified Sandpiper	65	08/29/00	Lesser Yellowlegs	24
08/22/00	Blue-wing Teal	5	08/29/00	Pectoral Sandpiper	6
08/22/00	Gadwall	10	08/29/00	Semipalmated Plover	2
08/22/00	Least Sandpiper	30	08/29/00	Unidentified Dabbler	2100
08/22/00	Lesser Yellowlegs	18	08/29/00	Unidentified Sandpiper	95
08/22/00	Northern Pintail	2	08/30/00	American Coot	300
08/22/00	Semipalmated Plover	4	08/30/00	Buffelhead	1
08/22/00	Unidentified Dabbler	112	08/30/00	Canada Goose	50
08/23/00	Gadwall	7	08/30/00	Canvasback	2
08/23/00	Killdeer	6	08/30/00	Killdeer	28

08/23/00	Lesser Yellowlegs	21
08/23/00	Mallard	12
08/23/00	Semipalmated Plover	3
08/23/00	Unidentified Dabbler	75
08/23/00	Unidentified Sandpiper	38
08/29/00	Canada Goose	34
08/29/00	Greater Yellowlegs	2
08/29/00	Killdeer	2
08/29/00	Pectoral Sandpiper	19
08/29/00	Unidentified Dabbler	150
08/30/00	Lesser Yellowlegs	27
08/30/00	Greater Yellowlegs	1
08/30/00	Killdeer	5
08/30/00	Canada Goose	18
08/30/00	Unidentified Dabbler	90
08/30/00	Unidentified Sandpiper	50
08/30/00	Mallard	2
08/30/00	Blue-wing Teal	12
08/30/00	Gadwall	6
08/30/00	Least Sandpiper	35

08/30/00	Least Sandpiper	45
08/30/00	Lesser Yellowlegs	24
08/30/00	Pectoral Sandpiper	20
08/30/00	Unidentified Dabbler	2650

Appendix 3  
GPS Locations of Point Counts and Transects,  
Kimiwan Lake, 2000

<b>Location</b>	<b>GPS North</b>	<b>GPS West</b>
Point Count 1	55 42' 52.6"	116 53' 40.0"
Point Count 2	55 42' 56.6"	116 53' 25.3"
Point Count 3	55 43' 02.0"	116 53' 12.1"
Point Count 4	55 43' 05.6"	116 52' 54.9"
Point Count 5	55 43' 12.2"	116 52' 38.8"
Point Count 6	55 43' 20.9"	116 52' 26.3"
Point Count 7	55 43' 31.7"	116 52' 22.5"
Point Count 8	55 43' 23.9"	116 52' 00.8"
Point Count 9	55 43' 23.8"	116 51' 41.6"
Point Count 10	55 43' 23.5"	116 51' 21.7"
Point Count 11	55 46' 54.3"	116 52' 51.2"
Point Count 12	55 46' 59.1"	116 53' 07.1"
Point Count 13	55 47' 02.4"	116 53' 25.2"
Point Count 14	55 47' 06.7"	116 53' 42.3"
Point Count 15	55 47' 09.8"	116 54' 02.0"
Point Count 16	55 47' 13.8"	116 54' 19.2"
Point Count 17	55 47' 19.1"	116 54' 36.9"
Point Count 18	55 47' 24.7"	116 54' 24.7"
Point Count 19	55 47' 30.9"	116 53' 40.0"
Point Count 20	55 47' 38.6"	116 53' 20.6"
North Transect Start	55 47' 31.2"	116 55' 09.8"
North Transect End	55 47' 12.5"	116 54' 15.9"
West Transect Start	55 45' 33.9"	116 57' 42.1"
West Transect End	55 45' 42.1"	116 57' 24.8"
Boardwalk Point Count	55 42' 55.2"	116 54' 46.1"