

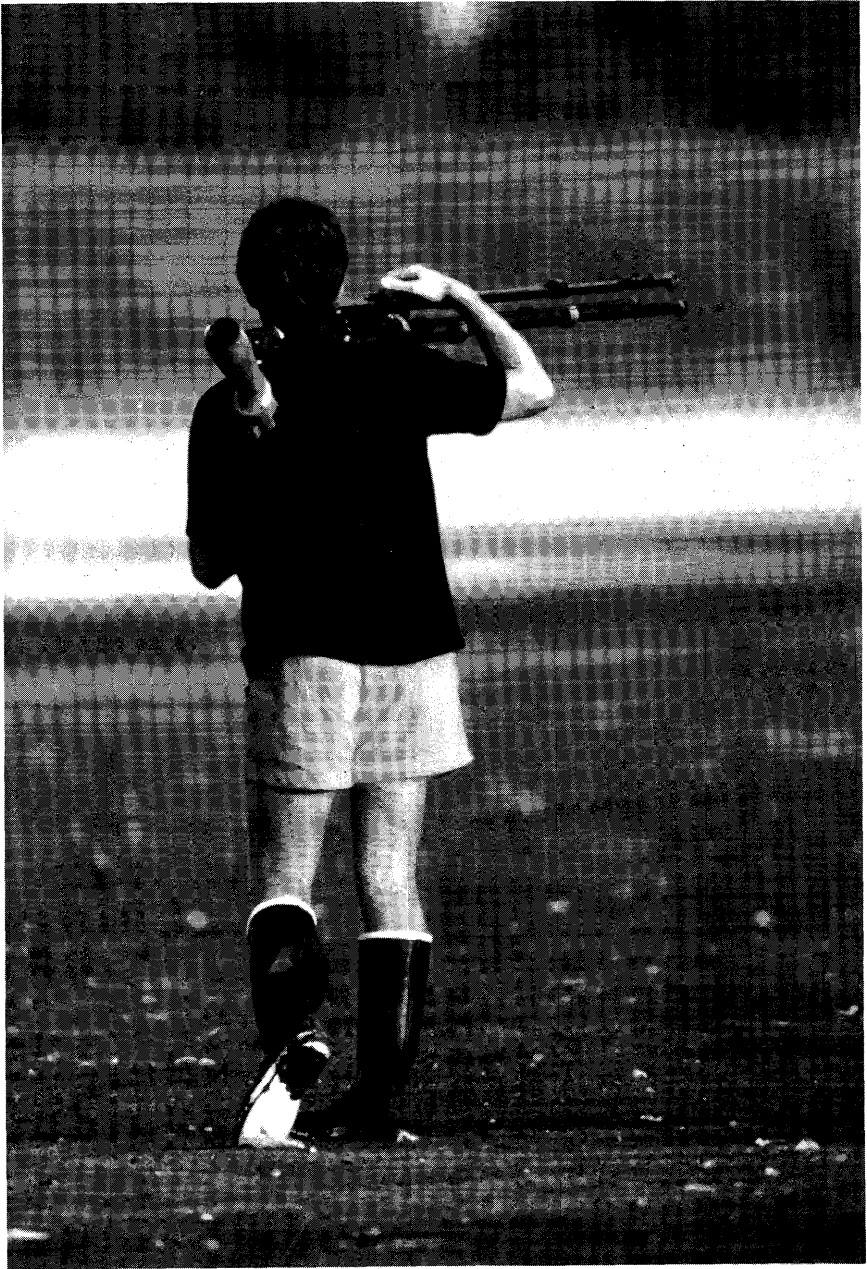


Figure 1. Shorebirder, East Pond, Jamaica Bay Wildlife Refuge, New York. Photograph by A. Morris.

THE 1989 FALL SHOREBIRD SEASON AT JAMAICA BAY WILDLIFE REFUGE

ARTHUR MORRIS

Thirty-four species of shorebirds were noted at Jamaica Bay Wildlife Refuge, Queens, New York during the 1989 fall migration. The refuge was visited 42 times between 23 June and 25 November. All species present were censused on each visit. Most visits, which averaged three to four hours, overlapped the time of high tide when the greatest number of birds fly into the East Pond to rest, feed, and preen. A majority of these birds disperse to tidal flats throughout Jamaica Bay as the tide recedes.

Censusing techniques are described by Morris (1988). In addition to the seven previously described census areas, "A" through "G", (Morris 1986) the tidal bay just north of the East Pond was added as census area "H." This area is nicknamed "Outflow Cove" because it is here that the East Pond's outlet pipe empties into Jamaica Bay. Small numbers of shorebirds have always fed here at low tide on saltwater mud flats, but this year, many also roosted on the sandy beach at high tide, especially when torrential rains flooded the East Pond. Areas "A" through "E" were counted regularly. Area "F" was visited infrequently as it attracts very few birds during fall migration. Each spring, however, thousands of northbound migrant shorebirds roost there.

Census results for areas "A" through "F" are presented in Table 1. Areas "G" and "H" were covered regularly throughout the season, though they were not visited as often as the East and West Ponds were. Census results for these areas are presented in Table 2. Daily counts from these areas are not included in Table 1. Average daily totals of all species are compared with the 8-year average in Figure 2. Species diversity is summarized in Table 3. Adult and juvenile arrival dates for the most common migrant species, for both 1989 and for the past 8 years, are summarized in Table 4.

Because of record rainfall in May and June, the water level at East Pond was far higher than anyone could remember when the gate valve at the north end of the East Pond was finally opened in late June; it should have been opened several weeks earlier. To make matters worse, a log jammed the flap valve so that it did not close at high tide; thus, while the pond drained at low tide, it refilled (with saltwater) at high tide. National Park Service personnel were indifferent to these high

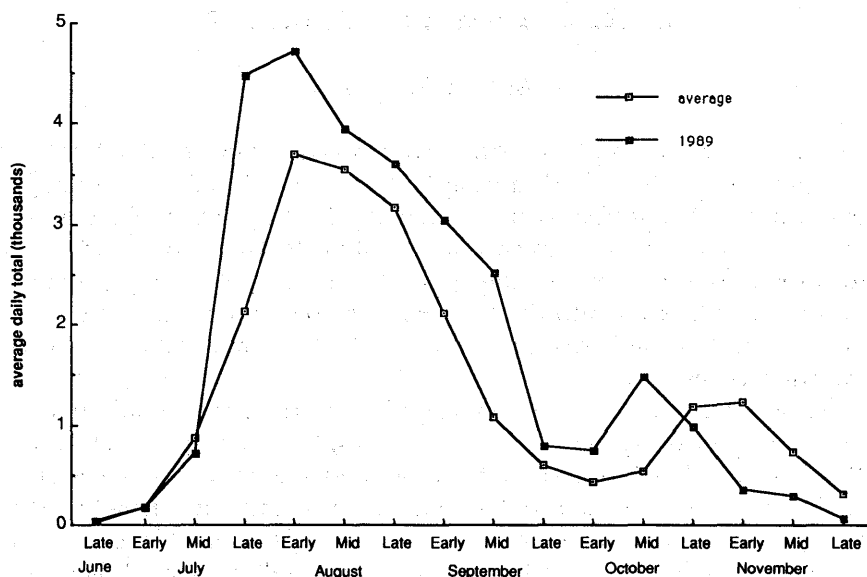


Figure 2. Average daily shorebird totals per ten day period, 1989 versus the 8-year average.

water levels that prevented all but a handful of returning shorebirds from utilizing the East Pond through mid July and pushed back adult arrival dates for many species that normally arrive early in the season. On 2 July the water level at the East Pond was so high that no mudflats were exposed. Thus, I was completely amazed to find that the gate valve, which allows the pond to drain at low tide, was closed. I was later told that the valve had been closed in error by an inexperienced employee. By late July the pond had drained to normal, low levels and adult migrants flocked to the pond in record numbers. A new daily total maximum of 5616 birds was established on 28 July. The second highest daily total ever, 5388, was recorded on 4 August.

Heavy rains from 10-13 August raised the East Pond level six inches. When I visited the pond on 16 August I was again amazed to find the gate valve closed. This was even more astounding considering the weather forecast; ten inches of rain were to arrive the next day with Hurricane *Hugo*! When I asked refuge personnel why the pond was not

being drawn down, I was told, "the gate valve will be opened tomorrow." If Hugo had not fizzled, three to four thousand shorebirds would have been forced off the East Pond.

Juvenile arrival dates averaged a week early. Juveniles of several species were noted in above average numbers (with approximate maxima) from late August through September as follows: Semipalmated Plover (100), Semipalmated (750) and Least Sandpiper (125), Short-billed Dowitcher (650), and Red Knot (225). Young Greater Yellowlegs (475), most in first winter plumage, made an excellent showing in early October.

Heavy rains in mid September once again raised the water level of the East Pond and reduced suitable shorebird habitat, but refuge personnel quickly drained the pond; shorebird numbers, boosted by large flocks of Black-bellied Plover, Greater Yellowlegs, and a good early flight of Dunlin, remained above average through mid October. The rains continued and, in late October, the pond was drained yet again. But as it has done for the past 3 years, the rain persisted and reflooded the pond; shorebird numbers late in the season were down 54% from the 8-year average.

Shorebird numbers at Area "G," adjacent to the North Railroad Bridge, fluctuated as they had in previous years. A maximum of 1562 birds of six species, mostly Dunlin, was noted here on 29 October. Eight species present on 10 August were the most recorded at this site, a sand beach, used primarily as a high tide roost. At Area "H" the season's maximum was 457 on 14 August and was mainly Semipalmated Plover and Semipalmated Sandpiper. David Mizrahi found 5 juvenile Hudsonian Godwit roosting here on 29 October; one was barely larger than a dowitcher!

Species diversity was below average for most of the season as Ruff, and both Curlew and Upland Sandpiper were absent and only single Marbled Godwit and Red-necked Phalarope were noted. Species diversity was far below average during the late season when high water levels prevented the traditional lingering species from visiting the East Pond.

With shorebird numbers 39% above the eight year average through late October, my criticism of the National Park Service management of East Pond water levels might be questioned, but several relevant factors must first be considered: 1) Shorebird numbers unquestionably would have been higher had ideal conditions at the East Pond existed throughout the season. 2) When water levels are too high, birders are

unable to make their way past large flocks of roosting birds without disturbing them, thus depriving these long-distance migrants of needed rest. 3) During the 1988 and 1989 seasons, an observer was present at both ends of the East Pond during high tide (Morris, 1989). The daily totals for these two years, when compared with the daily totals for 1981-1987, are almost surely inflated by ten to twenty percent. Average daily totals for 1989 were up 43% compared to 1988 numbers. 4) November 1989 totals were down 54% from the eight-year average. 5) For the past several years National Park Service personnel have not even followed their own guidelines for controlling the water levels at East (or West) Pond as set down in their Resource Management Plan.

SPECIES ACCOUNTS

Black-bellied Plover: Black-bellied Plover abounded this year (47% above the 8-year average) through September, but numbers were far below normal thereafter. They were down 69% from early October on.

Lesser Golden-Plover: A poor season was nonetheless an improvement on the three straight abysmal ones that preceded it.

Semipalmated Plover: An average adult migration was followed by a fairly good showing of juveniles, distinguished by their solid black bills, their brown, not black, neck bands, and the finely scalloped feathers of their upperparts.

Killdeer: A below average season for both local breeders and migrants.

American Oystercatcher: While large flocks of oystercatchers are now a common sight at the refuge, it seems that the explosive increases of recent seasons have leveled off at least temporarily. Three pairs nested within sight of refuge visitors; two produced young. The nest present for the third consecutive year just west of Bench 3 was washed away by extremely high tides. I observed one parent sitting on a single egg, far from the original nest, several days after the nest had been destroyed!

American Avocet: A single avocet that visited both ponds briefly on 9 Aug (Max and Nellie Larsen) is not included in Table 1.

Greater Yellowlegs: Though late in arriving, large flocks of this tall, elegant wader were seen throughout the season; numbers were up 76% from the 8-year average.

Lesser Yellowlegs: Both adults and juveniles were noted in somewhat above average numbers.



Figure 3. Downy young American Oystercatcher, Jamaica Bay Wildlife Refuge, New York. Photograph by A. Morris.

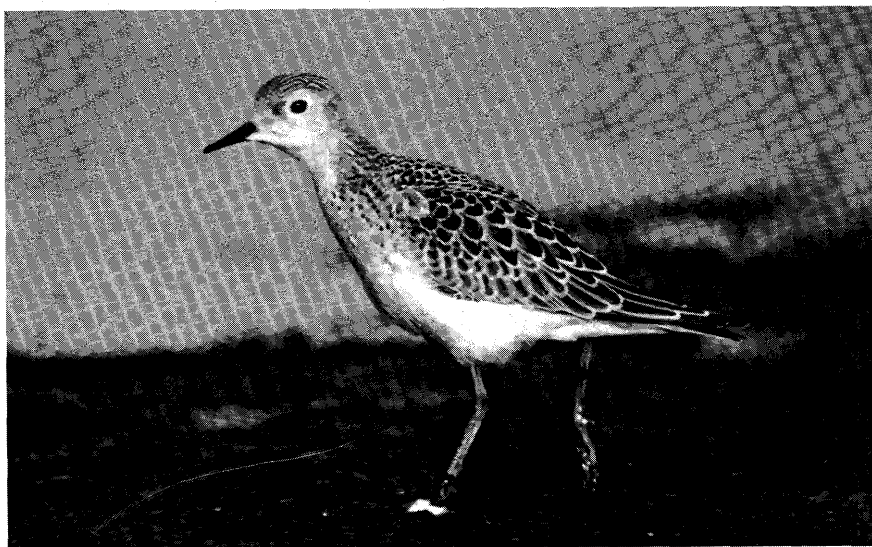


Figure 4. Juvenile Buff-breasted Sandpiper, Jamaica Bay Wildlife Refuge, New York. Photograph by A. Morris.

Solitary Sandpiper: A single bird present on 14 Aug is not included in Table 1.

Willet: For the first time in nine seasons a new record maximum was not noted this season, but local and regional populations continue to do exceptionally well. A leucistic Willet in first winter plumage was present on 7 Sep. It was eggshell white overall with a buff cap, greyish buff splotching on the upperparts, and faint greyish brown streaking on the sides of the head, the neck, and the upperparts — except for the coverts which were pure white. The tail and the primaries were white with greyish tips. The bend of the wing was dark grey. The eye was dark, the bill pink basally with a dark distal half. The bird was an amazing sight, especially in flight.

Spotted Sandpiper: 1989 was a below average season for this local breeder. The last was seen on 7 Sep.

Whimbrel: The season's total of 6 birds on three scattered dates was a typical showing.

Hudsonian Godwit: An average season featured a good showing of juveniles including 6 present from 4-11 Nov.

Marbled Godwit: Members of the Queens County Bird Club discovered the season's only Marbled Godwit on 1 Sep. It is not included in Table 1.

Ruddy Turnstone: More than twice the usual number of Ruddy Turnstone were present during the peak of adult migration, yet juveniles were scarce as usual. In mid August I saw an adult Ruddy Turnstone feeding on a dead blue claw crab.

Red Knot: 1989 was a fabulous season for this well-studied shorebird. Well above average numbers of adults arrived at the end of July, about one week early. Between 17 Jul and 11 Aug, 18 different color-banded Knots were sighted. As always, band data was sent to Manomet Bird Observatory; it is most discouraging that researchers there often fail to acknowledge these reports or to forward relevant information detailing where and when specific birds had been banded.

Sanderling: Down 93% from the 8-year average, the virtual disappearance of this species from the East Pond is, at least in part, an indication of its precipitous decline in the Americas over the past two decades.

Semipalmated Sandpiper: An excellent season was highlighted by a new maximum of 2457 on 28 Jul. Well above average numbers of adults, which arrived a week early, were followed by a record flight of

young birds that remained at the refuge in good numbers through mid September. Five color-banded Semipalmated Sandpiper were picked out of large flocks of adults between 24 Jul and 5 Aug. One wore a blue leg flag denoting that it had been banded in Brazil. CEMAVE, the Brazilian banding agency, sent a certificate in Portuguese. The bird had been banded in the spring of 1989 at "Coroa do Aviao, Itamaracá-PE, Brasil" (07°40'S, 34°50'W). JBWR is located at 40°40'N, 70°00'W.

Western Sandpiper: As usual, only a few (fading) adults were noted this season. Good numbers of juveniles did visit the refuge; as many as 35 were seen in mid September. They usually peak about 1 Sep.

Least Sandpiper: Average numbers of adults were followed by a good showing of juveniles.

White-rumped Sandpiper: Except for a small, late flight in mid September, few adults were noted. Juveniles were also scarce. A "runt" juvenile, much smaller (by direct comparison) than several Semipalmated Sandpipers, was carefully observed at the south end of the East Pond in mid November.

Baird's Sandpiper: Single juveniles (same bird?) noted on 23 Aug and 1 Sep were not included in Table 1.

Pectoral Sandpiper: Typically few adults were followed in early to mid October by a good showing of handsome juveniles.

Dunlin: Dunlin made a strong showing in early October, but numbers fell far below average as conditions at the East Pond deteriorated late in the season.

Stilt Sandpiper: It was an average year for adults, a bit below average for juveniles.

Buff-breasted Sandpiper: One elegantly beautiful bird in fresh Juvenal plumage delighted birders at the north end of East Pond for several days in early September. Birds of this species are best aged by noting the black subterminal spot on some of the coverts. Uncharacteristically, this bird spent a good deal of time roosting in shallow water on the edge of large flocks of shorebirds. It is not included in Table 1.

Short-billed Dowitcher: Great numbers of adults visited the refuge in summer of '89; the peak in late July was 65% above the 8-year average. An unprecedented flight of juveniles peaked in early September. September totals were nearly seven times greater than usual!

Long-billed Dowitcher: Adults, which arrived a week late, were very scarce this year. A good number of first-winter birds were found in early October, roosting as usual at the East Pond's north end where

they associate with Greater Yellowlegs. In first-winter plumage Long-billed Dowitcher averages darker grey, stockier, and shorter winged than does first winter Short-billed Dowitcher. In most years, Short-billed Dowitcher is at best uncommon when first-winter Long-billed Dowitcher arrive. All first-winter Short-billed Dowitcher retain a tertial or two; these feathers, no matter how worn, always exhibit the markings that distinguish the birds in fresh Juvenal plumage. Additionally, the Short-billed Dowitcher coverts, even when worn, are more broadly fringed than the coverts of first year Long-bills. Any juvenile dowitcher showing broad orange-buff fringes on the coverts is, of course, a Short-billed Dowitcher. [Editor's note: although their Juvenal and Alternate plumages are distinctive, no plumage characters that distinguish all Basic plumaged dowitchers are known. The differences noted above separate the great majority of individuals.]

Common Snipe: Singles present on 1 Sep and 15 Oct are not included in Table 1.

American Woodcock: Only six sightings of this secretive local breeder were made this year. The 25 Nov bird was the latest ever recorded by more than 5 weeks.

Wilson's Phalarope: A fading adult male in late July and five first year birds on scattered dates was a dismal showing for this species.

Red-necked Phalarope: A juvenile at the south end of the East Pond seen by NPS Ranger Mary Hake in mid September is not included in Table 1.

Acknowledgments

I would like to thank the many observers who helped fill in the gaps in daily counts, especially those who made detailed, legible log entries. David Mizrahi, in his second year as co-compiler, once again proved to be an extremely reliable, tireless worker and a skilled birder. Special thanks go to Max and Nellie Larsen, Shane Blodgett, Jack Dineen, Martin Sohmer, Bob Kurtz, Steve Walter, and Kevin Karlson, who assisted in gathering data for the 1988 count. This survey was done in cooperation with the International Shorebird Surveys, Manomet, Massachusetts.

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Table 1. Jamaica Bay Wildlife Refuge Fall Shorebird Census 1989

Species	June 23	July 29	2	5	9	12	16	17	20	24
Plover, Black-bellied								2		2
Lesser Golden-Semipalmated						1	6	1	22	151
Killdeer	3	2	2	2	4		7	1		21
American Oystercatcher	4	15	9	9	21	31	18	19	12	35
American Avocet										
Yellowlegs, Greater						7	15	42	29	30
Lesser				2		3	22	11	29	55
Solitary Sandpiper										
Willet	9	29	13	19	39	22	22	45	31	9
Sandpiper, Spotted				1	2	1	4	2	1	3
Upland										
Whimbrel										
Godwit, Hudsonian										
Marbled										
Ruddy Turnstone										4
Red Knot						5	4	30	102	170
Sanderling								1		
Sandpiper, Semipalmated			1			23	79	134	629	1179
Western									1	3
Stint, Little										
Rufous-necked										
Sandpiper, Least		11	12	111	53	31	97	53	38	37
White-rumped										
Baird's										
Pectoral					1					
Sharp-tailed										
Dunlin										
Sandpiper, Curlew										
Stilt									3	5
Buff-breasted										
Ruff										
Dowitcher, Short-billed		7	23	109	131	160	246	323	541	1699
Long-billed										
Common Snipe										
American Woodcock		1				1				
Phalarope, Wilson's										
Red-necked										
Number of species	3	6	6	7	7	11	11	13	12	15
Daily total	16	65	60	253	251	285	520	664	1438	3403
Coverage: East Pond		a	a	a	abcd	Abcd	ABCd	ABCD	ABCD	ABCD
West Pond	E	EF	E	E	Ef	EF	EF	E	E	E

Coverage: lower case = 0 birds in surveyed area

Species noted in the species accounts as NOT included in Table 1
ARE included in the number of species and the daily totals.

Table 1 (cont). Jamaica Bay Wildlife Refuge Fall Shorebird Census 1989

Species	August									
	28	30	31	4	8	11	14	18	23	28
Plover, Black-bellied	23	4	90	236	346	335	583	700	932	847
Lesser Golden-Semipalmated	339	58	426	717	567	587	491	576	523	551
Killdeer	1	3	6	5	4	5	5	1	5	9
American Oystercatcher	47	10	15	35	62	48	38	3	6	64
American Avocet										
Yellowlegs, Greater	78	5	111	141	156	155	178	343	225	311
Lesser	126	3	62	72	130	32	47	73	25	84
Solitary Sandpiper							1			
Willet	9	11	40	39	32	15	19	3	15	33
Sandpiper, Spotted		4	5	2	2	7	3	2	1	3
Upland										
Whimbrel		2								3
Godwit, Hudsonian	1	1	1	1	1	5	5	8	5	4
Marbled										
Ruddy Turnstone	137	23	81	309	255	300	338	215	178	132
Red Knot	1129	556	622	889	458	405	476	129	196	471
Sanderling	5			1	1				12	2
Sandpiper, Semipalmated	2457	224	2133	2267	1576	1555	1675	1152	786	1100
Western	2			2	1		2		3	4
Stint, Little										
Rufous-necked										
Sandpiper, Least	38	11	18	24	13	31	23	12	21	107
White-rumped	3		2	2	3	4	3	4	5	12
Baird's									1	
Pectoral	1		2	1	1	4	3		1	2
Sharp-tailed										
Dunlin										1
Sandpiper, Curlew										
Silt	5		12	3	4	8			9	11
Buff-breasted										
Ruff										
Dowitcher, Short-billed	1212	88	800	640	457	314	414	533	182	350
Long-billed	2			2			1	3		4
Common Snipe										
American Woodcock									1	
Phalarope, Wilson's	1								1	1
Red-necked										
Number of species	20	15	17	20	19	17	19	16	22	23
Daily total	5616	INC	4426	5388	4069	3810	4305	3757	3133	4106
Coverage: East Pond	ABCD		ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD
West Pond	E	E	E	E	E	E	E	E	E	E

Table 1 (cont). Jamaica Bay Wildlife Refuge Fall Shorebird Census 1989

Species	September						
	1	7	12	16	21	26	30
Plover, Black-bellied	859	575	721	456	485	192	76
Lesser Golden-Semipalmated	1	1	2	1	3		
Killdeer	318	159	145	114	8		6
American Oystercatcher	11	10	16	5	2		1
American Avocet	3	122	4	3		24	
Yellowlegs, Greater	341	165	164	259	66	55	422
Lesser	80	46	95	26	44	6	22
Solitary Sandpiper							
Willet	6	20	10	11		1	
Sandpiper, Spotted	2	1					
Upland							
Whimbrel							1
Godwit, Hudsonian	5	2		4	2	1	4
Marbled	1						
Ruddy Turnstone	34	16	27	9		8	
Red Knot	304	114	200	99	247	113	8
Sanderling	6			2			
Sandpiper, Semipalmated	496	955	762	1054	66	1	8
Western	10	15	35	35	1		
Stint, Little							
Rufous-necked							
Sandpiper, Least	137	50	78	94	4		3
White-rumped	15	13	21	28	1		1
Baird's	1						
Pectoral	9	1	5	5	8	1	9
Sharp-tailed							
Dunlin	1			2	6	8	6
Sandpiper, Curlew							
Stilt	3	20	20	17	2		1
Buff-breasted		1					
Ruff							
Dowitcher, Short-billed	509	658	352	171	327	72	72
Long-billed	2		1		1		6
Common Snipe	1						
American Woodcock	1						
Phalarope, Wilson's	1	2					
Red-necked			1				
Number of species	27	20	19	20	17	12	16
Daily total	3157	2944	2659	2395	1273	482	646
Coverage: East Pond	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD
West Pond	E	E	E	E	E	E	E

Table 1 (cont). Jamaica Bay Wildlife Refuge Fall Shorebird Census 1989

Species	October			November				December	
	9	15	21	29	4	12	19	25	3
Plover, Black-bellied	1	225	55	6	6				
Lesser Golden-Semipalmated	2	2							
Killdeer	7	1							
	3	1							2
American Oystercatcher	33				15	20	96	46	
American Avocet									
Yellowlegs, Greater	480	353	194	167	129	223	38		
Lesser	10	11	4	13	1	3	1		
Solitary Sandpiper									
Willet									
Sandpiper, Spotted									
Upland									
Whimbrel									
Godwit, Hudsonian	2	2			6	6	2		
Marbled									
Ruddy Turnstone		1	1						
Red Knot		40	58		2				
Sanderling									
Sandpiper, Semipalmated	70	52	5	6	1	1			
Western	1	1		1					
Stint, Little									
Rufous-necked									
Sandpiper, Least									
White-rumped	9	5	1	3		1			
Baird's									
Pectoral	24	15	6		1				
Sharp-tailed									
Dunlin	52	795	557	879	197	131	87	27	9
Sandpiper, Curlew									
Stilt		8							
Buff-breasted									
Ruff									
Dowitcher, Short-billed	22	15	17	1					
Long-billed	33	1	16		2	2			
Common Snipe		1							
American Woodcock		1						1	
Phalarope, Wilson's									
Red-necked									
Number of species	15	19	11	8	10	8	5	3	2
Daily total	749	1530	914	1076	360	387	224	74	11
Coverage: East Pond	ABCD	ABCD	ABCD	AbCD	ABCD	AbCd	abCd	abcd	
West Pond	E	E	E E		E	E	E	E	E

Table 2. Jamaica Bay Wildlife Refuge 1989 Shorebird Survey. Areas "G" and "H"

	Area "G"																									
Species	July					August				September				October				November				December				
Plover, Black-bellied	9	12	16	21	30	10	14	23	3	12	16	26	9	14	25	29	4	11	19	25	3					
Lesser Golden						1	3			12	175	40	37	23	155	205	9	10	1	14	3					
Semipalmated					29	12	21		16			5														
Killdeer	4			1																						
American Oystercatcher		3			2	3																				
Yellowlegs, Greater					1	4																				
Lesser					1	2																				
Sandpiper, Spotted						1																				
Godwit, Hudsonian																					1					
Ruddy Turnstone					12	2	14			3	7			1	1	13			1	2						
Red Knot											15	12	1	2	85	121		1								
Sanderling					7				1																	
Sandpiper, Semipalmated				1	141	19	17		1			1	4		1					1						
Sandpiper, Least				1																						
White-rumped																2										
Dunlin												20	18	16	550	1220	11	660	133	1325	4					
Number of species	1	1	0	3	7	8	4	0	3	2	3	6	4	4	4	6	2	3	3	5	2					
Daily total	4	3	0	3	193	44	55	0	18	15	197	79	60	42	791	1562	20	671	135	1343	7					

	Area "H"																							
Species	July					August				September				October				November				December		
Plover, Black-bellied	2	16	17	21	28	30	10	14	23	3	26	9	14	25	29	4	11	19	25	3				
Lesser Golden						2	1			4		3	6	5	5	9	7							
Semipalmated						3	5	112		3	43	22	8	25	12									
Killdeer	1			1	1	1		1																
American Oystercatcher	2	2	3	3	1			3		2														
Yellowlegs, Greater		3	3	1		2									12									
Lesser		3	8	2		4	2																	
Willet																								
Sandpiper, Spotted																								
Godwit, Hudsonian																5								
Ruddy Turnstone				1		2	12	4		1	1	1		1										
Red Knot																								
Sanderling																								
Sandpiper, Semipalmated		49	15	2	5	6	26	337		5	1	2	1	4	3		7							
Western																								
Sandpiper, Least		13	2	1																				
White-rumped															1									
Dunlin																12	11	141		185				
Dowitcher, Short-billed		22	22	4												1								
Number of species	2	6	6	8	3	7	5	5	0	5	4	4	3	5	7	2	3	0	0	1				
Daily total	3	92	53	15	7	20	46	457	0	15	46	28	15	36	50	20	155	0	0	185				

Table 3. Species Diversity

	Late June & E. July	Late July	Early Aug	Late Aug	Early Sept	Late Sept	Early Oct	Late Oct & Nov
1981	14	25	25	26	26	27	23	21
1982	13	24	25	29	31	30	26	19
1983	12	27	24	26	31	28	22	22
1984	13	25	29	26	28	29	26	21
1985	15	24	25	29	27	30	22	20
1986	14	23	29	29	23	22	16	18
1987	14	22	25	26	27	26	21	24
1988	15	22	23	28	26	24	20	23
Average	13.8	24.0	25.6	27.4	27.4	27.0	22.0	21.0
1989	13	23	22	25	29	23	20	15

Note: American Woodcock, which breeds locally, is presumed to be present throughout the season whether observed in a given period or not.

Table 4. Summary of adult and juvenile arrival dates

	Adults				Juveniles			
	Span	Years	Mean	1989	Span	Years	Mean	1989
Black-bellied Plover	25 Jul - 6 Aug	* 8	30 Jul	28 Jul	26 Aug - 27 Sep	7	6 Sep	7 Sep
American Golden Plover	14 Aug - 3 Sep	7	26 Aug	7 Jul	29 Aug - 11 Sep	7	4 Sep	1 Sep
Semipalmated Plover	30 Jun - 15 Jul	7	7 Jul	12 Jul	11 Aug - 22 Aug	8	16 Aug	16 Aug
Greater Yellowlegs	22 Jun - 30 Jun	7	27 Jun	12 Jul	7 Aug - 25 Aug	6	18 Aug	14 Aug
Lesser Yellowlegs	24 Jun - 3 Jul	8	29 Jun	5 Jul	25 Jul - 11 Aug	9	5 Aug	28 Jul
Ruddy Turnstone	19 Jul - 29 Jul	7	22 Jul	21 Jul	12 Aug - 30 Aug	6	23 Aug	18 Aug
Red Knot	16 Jul - 28 Jul	7	19 Jul	12 Jul	15 Aug - 29 Aug	7	21 Aug	23 Aug
Sanderling	15 Jul - 29 Jul	7	20 Jul	17 Jul	23 Aug - 30 Aug	5	27 Aug	3 Sep
Semipalmated Sandpiper	24 Jun - 12 Jul	8	1 Jul	2 Jul	7 Aug - 19 Aug	7	13 Aug	3 Aug
Western Sandpiper	12 Jul - 24 Jul	7	17 Jul	20 Jul	12 Aug - 30 Aug	6	19 Aug	17 Aug
Least Sandpiper	28 Jun - 9 Jul	7	2 Jul	29 Jun	26 Jul - 10 Aug	7	4 Aug	28 Jul
White-rumped Sandpiper	18 Jul - 6 Aug	7	27 Jul	28 Jul	13 Sep - 16 Oct	8	27 Sep	8 Sep
Pectoral Sandpiper	5 Jul - 20 Jul	7	13 Jul	28 Jul	22 Aug - 9 Sep	7	30 Aug	30 Aug
Dunlin	7 Sep - 24 Sep	** 8	17 Sep	21 Sep	5 Sep - 20 Sep	8	13 Sep	21 Sep
Stilt Sandpiper	9 Jul - 20 Jul	7	15 Jul	20 Jul	26 Jul - 31 Sep	8	17 Aug	12 Aug
Short-billed Dowitcher	24 Jun - 6 Jul	8	30 Jun	29 Jun	8 Aug - 15 Aug	9	10 Aug	4 Aug
Long-billed Dowitcher	17 Jul - 6 Aug	7	22 Jul	28 Jul	14 Sep - 8 Oct	7	27 Sep	21 Sep

* lingering, non-breeding adults may be present throughout July

** only scattered adults present before mid September