

THE 1988 FALL SHOREBIRD SEASON AT JAMAICA BAY WILDLIFE REFUGE

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Thirty one species of shorebirds, matching the record low total of 1987, were noted at Jamaica Bay Wildlife Refuge, Queens, New York, during the 1988 fall migration. The refuge was visited 60 times between 25 June and 27 November. Every species present was censused at least once a week. Virtually all visits, which averaged three to four hours in duration, 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.

David Mizrahi joined me this year as co-compiler. Early in the season we counted birds together, reviewed censusing techniques and compared our results for both extrapolated and actual counts. As the season progressed and shorebird numbers grew, we split the workload. Usually, one of us would cover the northern half of the East Pond and the West Pond, while the other would cover the southern half of the East Pond including the Raunt, the South Flats and Headquarter's Cove. Instead of rushing as was necessary when I counted all survey areas myself, each of us was able to proceed more slowly and, therefore, to count more accurately. From October on, most counts were conducted by just one of us.

As in previous years, the refuge was divided into seven survey areas, "A" to "G" (Morris, 1986). Areas "A" to "F" were covered regularly. Census results are presented in Table 1. Area "G" was covered after mid September. Census results from area "G" are presented in Table 2. Species diversity is summarized in Table 3. Arrival dates in 1988, separated by age class, for the most common migrant species are compared with the corresponding arrival dates over the eight years since 1981 in Table 4.

The gate valve at the north end of the East Pond was opened on 24 June. The pond drained quickly. By mid July conditions, for the first time in four years, were perfect for arriving adult migrants. Consequently, numbers were above average for the first half of July. A bloom of filamentous green algae, once again less substantial than the previous year's, was noted. Then it rained and rained and rained. By late July, the water was so high that some veteran observers thought the entire season would be washed out. No mudflats were exposed at the north end of the East Pond, usually the birds' favored haunts in July.

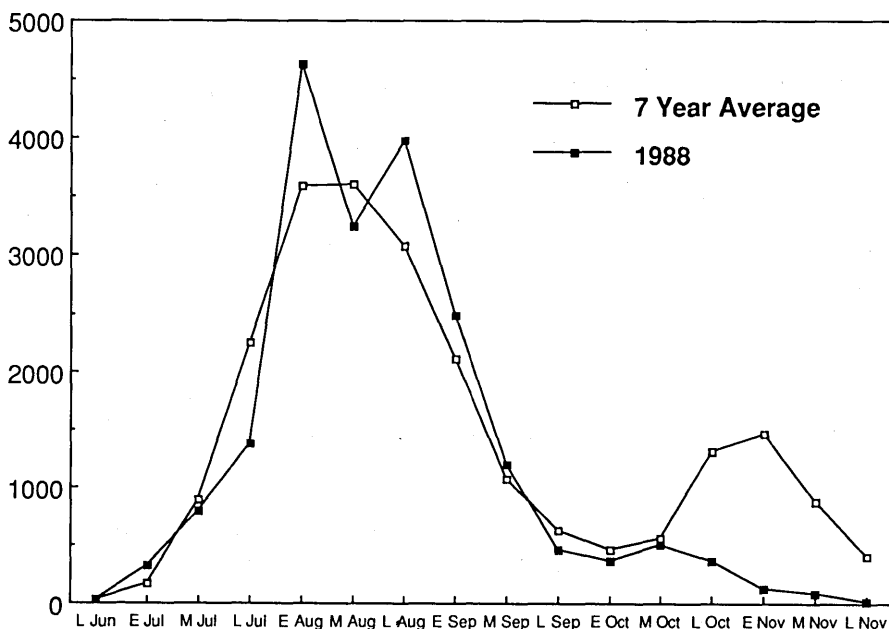


Figure 1. 1988 versus the seven year average.

Even Peep Island, at the Raunt, was underwater. Numbers fell well below the seven-year average (Davis, 1982, 1983, 1984; Morris, 1985, 1986, 1987, 1988). The West Pond side (areas E and F) accounted for 35% to 70% of the daily totals during this period. National Park Service personnel reopened the gate valve and by early August the pond almost miraculously had drained to normal low levels. Arrival dates for adults of species which normally arrive in July averaged a week early. Migration of adults peaked in early August at almost 30% above average.

Arrival dates of juveniles also averaged a week early. Juveniles of several species were noted in well above average numbers in August as follows (numbers in parentheses are approximate maxima): Semipalmated (750), Least (100) and Western Sandpiper (50), Short-billed Dowitcher (350), and Lesser Yellowlegs (90). As a result, an uncharacteristic peak for juveniles in late August is apparent on the graph comparing the 1988 migration to the seven year average (Fig. 2).

The percentage of birds frequenting the West Pond side dropped steadily from early August (18%) through month's end (5%).

Shorebird numbers in the early fall were slightly below average. A Peregrine Falcon or a Merlin was noted on most visits. A Peregrine, with raised wings, doing the Louisiana two-step in the mud, was most entertaining, as was the Merlin with a bulging crop that leisurely chased a Semipalmated Sandpiper above the Raunt for more than three minutes before ripping it out of the sky. In September, from 3% to 30% of the birds counted were found on the sandy spit at the southwestern end of the old tern nesting area.

Heavy autumn rains refilled the East Pond prematurely. From late October through late November, daily totals were 85% below the seven year average. In 1987, daily totals for this period also were far below normal, despite perfect conditions at the East Pond. I twice suggested to refuge personnel that the East Pond be drained to provide suitable habitat for the soon-to-arrive flocks of Dunlin. However, the water level in the East Pond is directly tied to the water level in the Big John's Pond because they share the same water table. In an effort to keep enough water in Big John's Pond to protect reintroduced reptiles and amphibians (primarily salamanders) from heron predation and/or dropping temperatures, the flood gate was never reopened.

Shorebird numbers at Area "G", adjacent to the North Railroad Bridge, fluctuated as they had in previous years. A maximum of 550 birds, mostly Dunlin, was noted there on 29 October.

Species diversity (Table 3) was below average for much of the season, in part because four rare, but formerly regularly occurring species, American Avocet, Curlew Sandpiper, Ruff and Red-necked Phalarope, were missed.

SPECIES ACCOUNTS

Black-bellied Plover: Well above average numbers of this species were present through mid September, but numbers were far below normal thereafter. Few juveniles were noted. A new record maximum of 1193 was recorded on 31 August.

Lesser Golden-Plover: Only three individuals, a record low number, were noted as this species had its third straight abysmal season at the refuge. These observations are not included in Table 1.

Semipalmated Plover: After the record early arrival of a single adult on 28 June, the above average numbers of adults, the bulk of which arrived about a week late, were followed by a fair showing of juveniles.

Killdeer: This was a below average season for local nesting birds. Numbers of migrant Killdeer, which pass through the refuge in September and October, were above average.

American Oystercatcher: Large flocks of oystercatchers are now a common sight at the refuge. They reflect continuing increases in both local and regional populations which, in turn, foster the northward range expansion that this species is currently undergoing. As in 1987, a pair nested successfully on the sandy spit at the western edge of the South Marsh. Strangely, numbers were far below average in late September and early October. It is most likely that the birds simply chose another roost during this period for reasons unknown.

Greater Yellowlegs: Numbers of this species were somewhat below average this season except during October, when several good-sized flocks of first-winter birds were present.

Lesser Yellowlegs: This was an average season for adults and a good one for juveniles. In mid August, a worn adult with a bank mussel clamped tightly on the toes of its left foot was present on the South Flats. I saw it several times over a period of ten days. It weakened gradually during this time. Though I never found the bird dead, it seemed likely that this attachment was a fatal one.

Solitary Sandpiper: Single birds present on 16, 24 and 31 August are not included in Table 1.

Willet: Local and regional populations continue to increase dramatically. A new maximum for this species has been established each year since the survey's inception in 1981. The tradition continued this year when 59 were counted on 21 July.

Spotted Sandpiper: This was an average season for this local breeder.

Upland Sandpiper: On 28 August, two calling birds flew over the East Pond (Tom Burke, Paul Lehman). Their occurrence is not included in Table 1.

Whimbrel: Seven Whimbrel that flew over the refuge on 21 August were the only recorded ones this season. They are not included in Table 1.

Hudsonian Godwit: This was an average season for this species. The only juvenile noted was one present from 10 October to 19 November.

Marbled Godwit: This was a good year for Marbled Godwits. Four birds present in early September equaled the maximum established last season.

Ruddy Turnstone: The adult flight arrived about two weeks late but in above average numbers. As usual, only a few juveniles of this species visited the refuge this fall; most are seen at the Raunt.

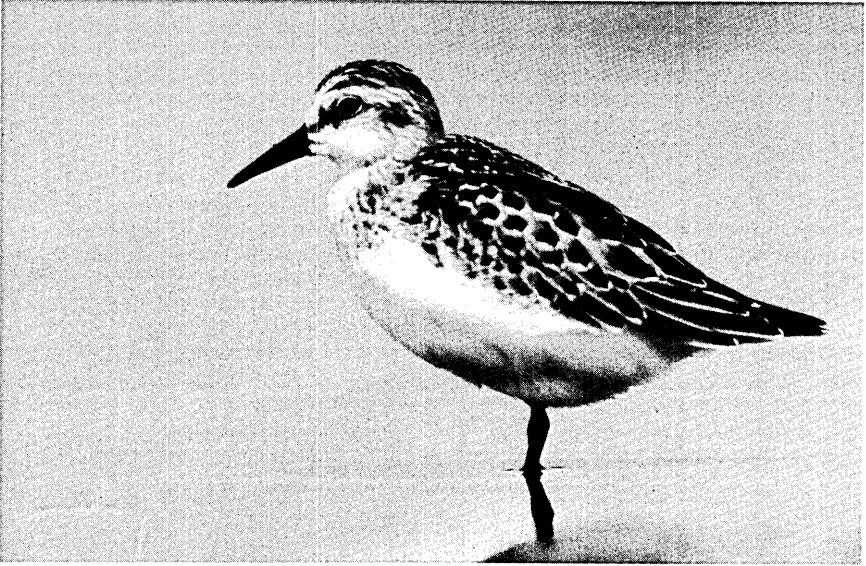


Figure 2. Juvenile Semipalmated Sandpiper, East Pond, Jamaica Bay Wildlife Refuge, New York, 17 Aug 1988. Photograph by the author.

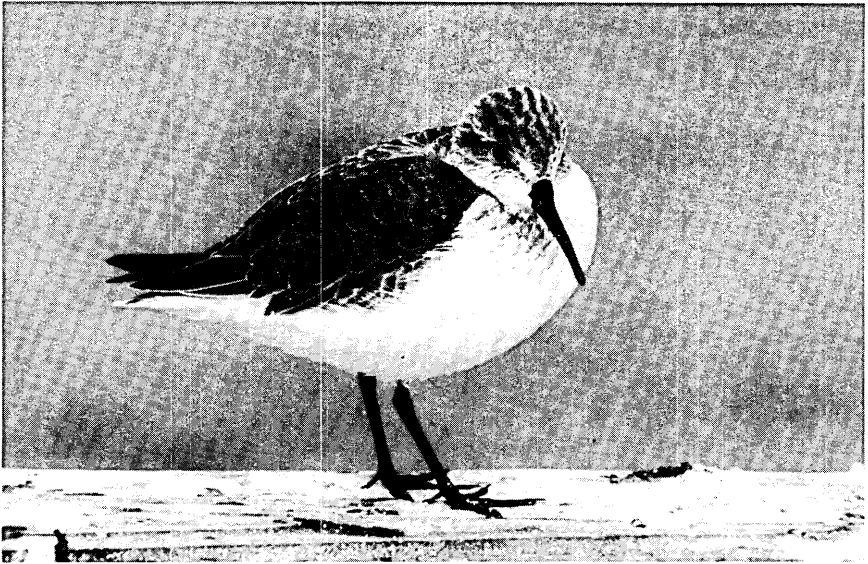


Figure 3. Western Sandpiper in Basic Plumage, Zach's Bay, Long Island, New York, 16 Oct 1988. Photograph by the author.

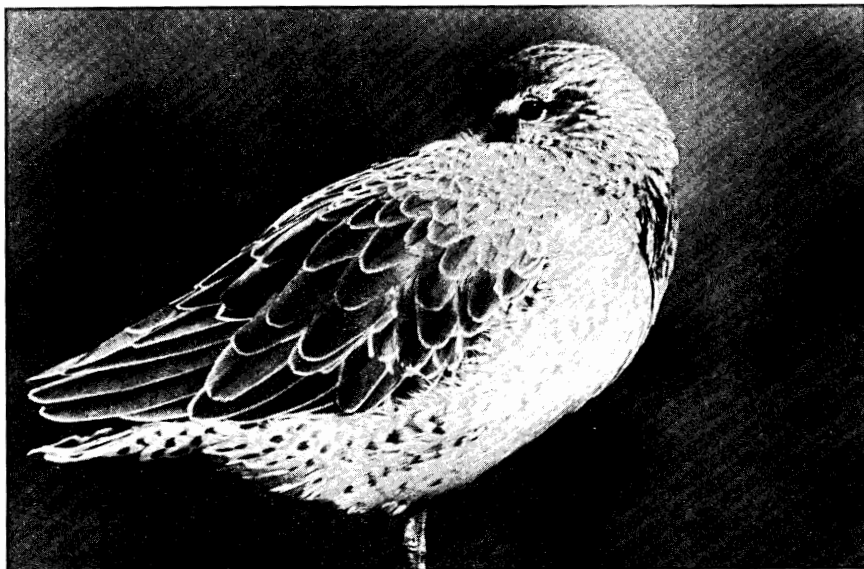


Figure 4. Short-billed Dowitcher in Basic Plumage, Zach's Bay, Long Island, New York. Photograph by the author.

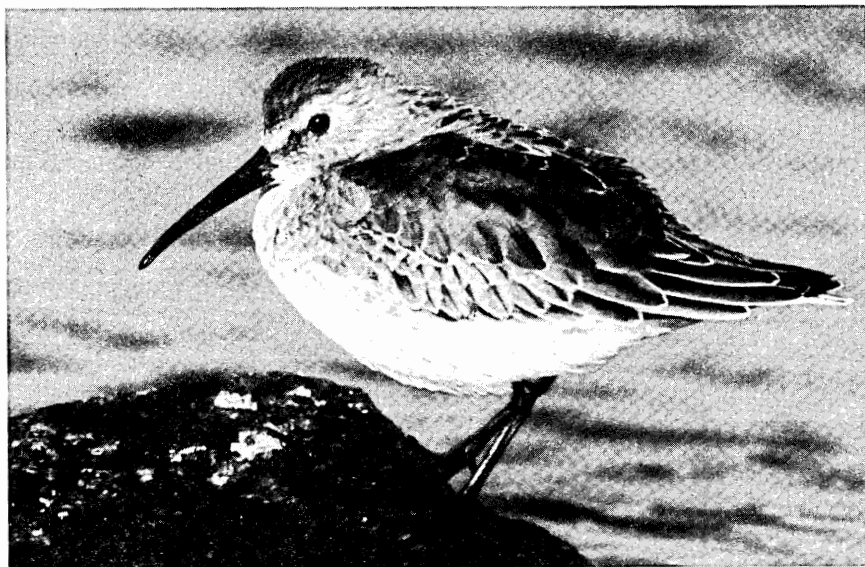


Figure 5. Dunlin in Basic Plumage, Jamaica Bay Wildlife Refuge, New York, 5 Oct 1988. Photograph by the author.

Red Knot: Flocks of this species arrived, in above average numbers, on schedule in early August. Between 25 July and 9 August I noted at least 15 different color-banded Knots. Most sported a green leg-flag indicating that they were banded in the United States. Band data was sent to Brian Harrington at Manomet Bird Observatory. Five of the birds had been banded in Massachusetts. Most of the rest had been banded in southern New Jersey in the spring.

Sanderling: Except for a fair showing, including a flock of 112, at the end of August, few Sanderling visited the refuge this season. The virtual disappearance of this species from the East Pond is an indication of its precipitous decline in the Americas over the past 15 years.

Semipalmated Sandpiper: Average numbers of adults were followed by an excellent flight of young birds in late August.

Western Sandpiper: A record early Western on 8 July was one of only three adults present this season. This poor showing, however, was followed by an unprecedented flight of juveniles. On 28 August, 52 carefully counted birds, all in fresh juvenal plumage, was a new maximum.

White-rumped Sandpiper: Except for a small flight in late August, there were few adults at the refuge this season, and juveniles were exceedingly scarce.

Baird's Sandpiper: Single juveniles noted on 24 August and 5 September are not included in Table 1.

Pectoral Sandpiper: This was an above average season for both adults and juveniles.

Dunlin: Incredibly, Dunlin numbers at the East Pond were down more than 95%, due at least in part to the high water levels that covered all mudflats after late October. During October and early November, fair numbers were present at Area "G".

Stilt Sandpiper: This was a below average season, and few juveniles were present.

Buff-breasted Sandpiper: Four birds on five dates, including one seen daily from 5-11 September, was the best showing ever for this handsome shorebird. The birds frequented the grassy margins of the West Pond where they fed with juvenile Pectoral Sandpipers.

Short-billed Dowitcher: Adult migration began with above average numbers present in early July and peaked in early August rather than late July as usual. An excellent flight of several hundred juveniles arrived in late August; their numbers dwindled throughout September.

Long-billed Dowitcher: Adults were scarce in July and August, but fair numbers were present in early September. A record early (by 18 days) juvenile was impeccably described on 27 August by a visiting birder with impeccable credentials, Paul Lehman. Twenty-three first-winter birds in their usual haunts at the north end of the East Pond were present from 27 September through 7 October.

Common Snipe: One bird, a bit late on 12 November, was the only snipe observed at the refuge this season. It is not included in Table 1.

American Woodcock: It was a good year for this secretive local breeder.

Wilson's Phalarope: No adults were noted this season. A single bird in fresh juvenal plumage was followed by a good showing of first-winter birds, highlighted by seven on 24 August.

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. Thanks also to Max and Nellie Larsen, Tom Hook, Bob Kurtz, Steve Walter, and Kevin Karlson, who assisted in gathering data for the 1988 count. And very special thanks go to David Mizrahi for becoming co-compiler and making my life a lot easier. He was extremely reliable, proved to be a skilled birder, a tireless worker, and best of all, a good friend. I look forward to his help in the years to come. This survey was done in cooperation with the International Shorebird Surveys, Manomet, Massachusetts.

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Erratum: The arrival date for adult Red Knot in 1987 was inadvertently printed as 1 July (*Kingbird* 39(2):93). It should read 28 July. Table 5 in that report reflects the correct date. — *The Editor*.

Table 1. Jamaica Bay National Wildlife Refuge Fall Shorebird Census 1988

Species	June 25	27	28	29	July 2	5	8	9	12	14	16	17	19	21	23
Plover, Black-bellied															2
Semipalmated			1			2		3	9	25	5	8	6	17	9
Killdeer	4	7	5	5		9	1	16	23	8	19	3	10	4	2
American Oystercatcher	10	7	8	11	5	19	3	40	23	2	24	20	34	27	32
Yellowlegs, Greater					5	1	4	13	21	23	15	9	41	27	
Lesser				10		4	9	7	24	35	24	23	18	17	2
Willet	12	13	11	12	11	12	1	31	33		17	12	22	59	40
Sandpiper, Spotted		2		4	1		1	1	2		1	3	7	4	2
Godwit, Hudsonian					1	1			1		4	5	4	5	1
Marbled															
Ruddy Turnstone														2	3
Red Knot										1		1	3	54	4
Sanderling															
Sandpiper, Semipalmated						1	8	2	29	25	306	252	456	475	395
Western							1						2		
Sandpiper, Least	1			3		6	8	30	45	80	52	25	46	19	3
White-rumped															
Pectoral											1		2	1	1
Dunlin															
Stilt						1									
Buff-breasted												7	4	1	1
Dowitcher, Short-billed	1			1	5	63	558	406	471	352	248	321	678	654	371
Long-billed															
American Woodcock	2			3	8						1		1		
Phalarope, Wilson's															
Number of species	6	4	4	8	7	11	10	10	11	9	13	13	16	15	15
Daily total	30	29	25	49	36	119	594	549	681	551	717	689	1334	1366	868
Coverage: East Pond				cd		aBCd	ABCd	ABCD	AbcD	AbcD	ABcd	ABCD	ABCD	ABCD	B
West Pond	EF	EF	EF	EF	EF	EF	EF	EF	E		E	E	E	E	E

lower case = 0 birds in censused area

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

Table 1 (cont.) Jamaica Bay National Wildlife Refuge Fall Shorebird Census 1988

Species	July	August													
	24	29	30	31	2	5	7	8	12	16	18	21	24	28	31
Plover, Black-bellied	2	4	4	32	82	182	600	403	332	379	579	837	684	885	1193
Semipalmated	35	64	80	95	652	717	800	649	506	364	470	666	410	614	339
Killdeer	2	2	2	1	2	1	2	13	19	19	9	10	17	3	5
American Oystercatcher	29	39	30	28	35	101	6	108	111	147	153	123	71	74	106
Yellowlegs, Greater	34	102	80	53	64	73	20	126	161	161	55	243	226	284	167
Lesser	9	33	30	24	12	12	15	56	74	36	39	52	98	72	15
Willet	15	10	20	15	6	5		10	21	2	3	12	13	7	10
Sandpiper, Spotted	4	5	3	3	1	6	5	2	1	4			2	5	1
Godwit, Hudsonian	2	4	3	3	4	3	1	6	7	3	5		4	5	4
Marbled									1			1		1	3
Ruddy Turnstone	6	7	10	5	47	112	80	183	36	98	107	113	81	93	48
Red Knot	202	247	350	375	763	996	350	751	44	30	216	367	383	345	67
Sanderling			1	2	4	6		1	2			2	1	23	112
Sandpiper, Semipalmated	529	497	700	395	1772	1757	1500	1866	1735	1151	1020	1188	1256	1243	807
Western							1			8	12	13	33	52	40
Sandpiper, Least	18	5	4	7	15	21	40	20	17	61	62	75	102	86	68
White-rumped							6		1	4	2	14	17	49	27
Pectoral			1	1	1	2	12	11	5	35	9	19	13	27	13
Dunlin															
Stilt	1	2	2	5	6	5	12	10	10	6	6	5	19	14	9
Buff-breasted										1		2			
Dowitcher, Short-billed	514	368	450	363	1005	908	800	651	671	309	372	495	497	472	283
Long-billed		6		5			3	3	2			1	2	3	10
American Woodcock			1		1		2				10		2		
Phalarope, Wilson's			1	1			1		1	3	2	2	7	6	2
Number of species	15	16	19	19	18	17	20	18	21	21	19	23	24	23	23
Daily total	1402	1395	1772	1413	4472	4907	4256	4869	3757	2822	3131	4251	3940	4365	3330
Coverage: East Pond	ABCD	ABCD	BCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD
West Pond	E	E	E	E	E	E		E	E	E	E	E	E	E	E

Table 1 (cont.) Jamaica Bay National Wildlife Refuge Fall Shorebird Census 1988

	September															
Date	5	8	11	16	18	21	24	27	1	4	7	8	10	15	21	
Plover, Black-bellied	533	561	534	374	286	43	138	361	25		16	25		70	1	
Semipalmated	83	27	28	3	2	1										
Killdeer	2	10	9	7	1	14	1		25	6	17		13	21	6	
American Oystercatcher	31	72	89		21	2	12		5					37		
Yellowlegs, Greater	216	201	220	89	106	61	69	169	320	151	179	191	375	264	160	
Lesser	37	61	39	29	29	3	23	17	9	18	16	13	18	17	15	
Willet	11	14	12	7	10	8	5	5	3	3		3	2	1		
Sandpiper, Spotted		2	1			1									1	
Godwit, Hudsonian	6	2	1	2	1	1	1	1	1	3	1	4	3	4	2	
Marbled	4	4		3	3	2	1	1	1	1						
Ruddy Turnstone	52	20	15	7	8	2	8	7	1							
Red Knot	28	59	60	57	12	8	28	33			8	3		2		
Sanderling		1														
Sandpiper, Semipalmated	1343	981	506	206	189	64	56	37	4		5		10	28		
Western	48	11	7	5	1	1		1	1							
Sandpiper, Least	58	73	93	77	77	25	17	12	4					1	1	
White-rumped	11	5	7	3	4				4	3		1	1	4	2	
Pectoral	19	7	4	5	34	7	14	10	16	2				9	10	
Dunlin	1			2	3		5	22	16	50	36	39	59	37	40	
Stilt	6		2	2	1	2									1	
Buff-breasted	2	1	1													
Dowitcher, Short-billed	187	135	147	52	54	9	24	12	12	7	2	2	1			
Long-billed	1	16	2		2			23	17	12	23		2			
American Woodcock		1							2							
Phalarope, Wilson's	2	1	2		1	1				1						
Number of species	23	23	21	18	21	20	17	15	18	12	10	9	10	13	11	
Daily total	2682	2265	1779	930	845	256	403	711	466	257	303	281	484	495	239	
Coverage: East Pond	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	ABCD	
West Pond	E	E	E	E	E	E	Ef	E	E	EF		E	Ef	E		

Table 1 (cont.) Jamaica Bay National Wildlife Refuge Fall Shorebird Census 1988

Species	October		November								
	22	23	29	3	7	11	15	19	22	24	27
Plover, Black-bellied		13	66								
Semipalmated				4							
Killdeer			1	4							
American Oystercatcher		76	106	74	87	71	50	37	22		9
Yellowlegs, Greater	170	371	170	18	27	32	16	5			6
Lesser		15	12	8	1	3	1	1			1
Willet		1									
Sandpiper, Spotted											
Godwit, Hudsonian		3	5	4	2	3	4	2			
Marbled											
Ruddy Turnstone											
Red Knot		1	1								
Sanderling			1								
Sandpiper, Semipalmated		4	1								
Western											
Sandpiper, Least											
White-rumped		2	1	2							
Pectoral		12	3								
Dunlin	80	46	34	7	10	7	8	19			2
Stilt			3								
Buff-breasted											
Dowitcher, Short-billed		1	1		1						
Long-billed	4	7									
American Woodcock											
Phalarope, Wilson's			2								
Number of species	3	13	15	8	6	6	5	5	1	0	4
Daily total	254	552	407	121	128	117	79	64	22	0	18
Coverage: East Pond	BCd	ABCD	ABCD	AbCd	abCd	abCd	abCd	abCd	abcd	abcd	c
West Pond	E	E	E	EF	EF	E	E	E	E	e	Ef

Table 2. Jamaica Bay Wildlife Refuge 1988 Shorebird Survey. Area "G"

	September				October						November									
Species	11	18	21	22	27	1	5	7	8	10	15	23	29	4	7	11	15	19	24	
Plover, Black-bellied	45	150	250	85	3	63	49	108	48	100	31	177	34	10	31	8				
Lesser Golden												1								
Semipalmated	31	3		3			1			1		2		1						
Killdeer		1						2												
Yellowlegs, Greater								1												
Ruddy Turnstone	12	8	2	2	1	1	1	4	4	7		3	2	1						
Red Knot		2	8			2	8			1	1					1				
Sanderling		8	1		1	2		2		6	1		10	7	2					
Sandpiper, Semipalmated	1					1				3		3								
Least				3																
Western																				
White-rumped							2			2		2	2	1						
Dunlin	1					14	90	174	98	350	14	177	502	450	550	35		16		
Dowitcher, Short-billed			2			2														
Number of species	5	6	5	4	3	7	6	6	3	8	4	7	5	6	4	2	0	1	0	
Number of individuals	90	172	263	93	5	85	151	291	150	470	47	365	550	470	584	43	0	16	0	

Table 3. Species Diversity 1981-1987

	Late Jun & 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
Average	13.6	24.3	26.0	27.3	27.6	27.4	22.3	20.7
1988	15	22	23	28	26	24	20	23

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

Table 4. Adult and Juvenile Arrival Dates

Species	Adults				Juveniles			
	Span	Years	Mean	1988	Span	Years	Mean	1988
Plover, Black-bellied	late July*			23 Jul	26 Aug - 27 Sep	7	6 Sep	6 Sep
Lesser Golden-Semipalmated	14 Aug - 21 Sep	7	29 Aug	21 Sep	29 Aug - 24 Sep	7	6 Sep	24 Sep
Yellowlegs, Greater	28 Jun - 15 Jul	7	5 Jul	28 Jun	11 Aug - 22 Aug	8	15 Aug	13 Aug
Lesser	22 Jun - 30 Jun	7	26 Jun	26 Jun	7 Aug - 25 Aug	6	16 Aug	9 Aug
Turnstone, Ruddy	24 Jun - 3 Jul	8	29 Jun	29 Jun	25 Jul - 11 Aug	9	5 Aug	5 Aug
Knot, Red	19 Jul - 29 Jul	7	21 Jul	21 Jul	12 Aug - 30 Aug	6	22 Aug	18 Aug
Sanderling	14 Jul - 28 Jul	7	18 Jul	14 Jul	15 Aug - 29 Aug	7	20 Aug	17 Aug
Sandpiper, Semipalmated	15 Jul - 29 Jul	7	20 Jul	27 Jul	23 Aug - 30 Aug	5	27 Aug	28 Aug
Western	24 Jun - 12 Jul	8	1 Jul	5 Jul	7 Aug - 19 Aug	7	12 Aug	9 Aug
Least	8 Jul - 24 Jul	7	15 Jul	8 Jul	7 Aug - 30 Aug	6	17 Aug	7 Aug
White-rumped	25 Jun - 9 Jul	7	1 Jul	25 Jun	26 Jul - 10 Aug	7	3 Aug	2 Aug
Pectoral	18 Jul - 7 Aug	7	28 Jul	7 Aug	13 Sep - 16 Oct	8	27 Sep	1 Oct
Dunlin	5 Jul - 20 Jul	7	13 Jul	16 Jul	22 Aug - 9 Sep	7	29 Aug	24 Aug
Sandpiper, Stilt	**			5 Sep	5 Sep - 20 Sep	8	12 Sep	11 Sep
Dowitcher, Short-billed	5 Jul - 20 Jul	7	13 Jul	5 Jul	26 Jul - 31 Aug	8	17 Aug	18 Aug
Long-billed	24 Jun - 6 Jul	8	29 Jun	25 Jun	2 Aug - 15 Aug	9	9 Aug	2 Aug
	17 Jul - 6 Aug	7	22 Jul	29 Jul	27 Aug - 8 Oct	7	23 Sep	27 Aug

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

** only scattered adults before mid September